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VOLUME II

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University Studies.

Vol. II. *JULY, 1894.* No. 1.

I.—*Additional Notes on the New Fossil, Daimonelix. Its Mode of Occurrence, its Gross and Minute Structure.*

By ERWIN HINCKLEY BARBOUR.

In deference to the ranchmen and early settlers of northwestern Nebraska, the name *Daimonelix* has been applied by the author to certain gigantic fossils known to them as the 'Devil's Corkscrews' or 'fossil twisters.'

At first sight, the name seems perhaps to savor somewhat of the wild west, yet a moment's reflection will suffice to remind any naturalist that one finds a justification for this early name in the 'devil's fingers,' 'devil fish,' 'Devil's Tower,' and the like, so familiar to all.

These great twisters were examined by the author for the first time in June of 1891, when one specimen was secured, though many others were observed, measured and sketched; and, as sufficient data had been obtained, a brief illustrated description was published in *Science*, February 19, 1892, in which the name *Daimonelix* was proposed for 'Devil's Corkscrews.' These new fossil beds were visited a second time by the author in May, 1892. At that time, within ten days, in spite of the storms and unseasonable blizzards which prevailed, many localities were visited and a large number of excellent specimens secured. The material then obtained furnished facts for a second paper which was published in the *University Studies*, July, 1892, under the title *On a New Order of Gi-*

gantic Fossils. The fact that the specimens were collected, cleaned, and figured, and that the paper was begun and completed between May 1st and the middle of June, and that too amidst the distractions of class work and examination, is an all sufficient excuse for any lack of detailed study, or examination into the minute structure of the fossil.

Again, on June 20, 1892, the author visited the same region, taking charge of the Morrill Geological Expedition, which explored and collected in these interesting beds for several weeks, covering in that time several hundred square miles of territory, and obtaining some of the best specimens that can ever be found.

Although the region has not been visited by parties from the University since that date, yet the material secured then, and on the former expeditions, has been worked over, and it is believed that additional facts of consequence to those interested have been found. The present paper will attempt to show the progress that has been made rather than to undertake to show what these peculiar fossils are. They are as anomalous now as when first discovered, and no one dares to make positive statements as to their true nature. These twisted old paradoxes must have lived, if they lived at all, in water too burdened with sediment to admit of life. If animals, they were also plants. If "accidents," they chanced to happen according to perfectly definite and fixed laws. Such accidents should be immortalized. Whether they were the product of chance, or only mechanically formed burrows, matters not so long as every microscopic section, without exception, shows perfectly definite and unmistakable plant structure. Its cellular structure is not offered as proof, but as evidence of its direct or remote relation to plants. The fossil, strange as it may seem, stands undetermined. It has been visited and examined by some of the best Botanists, Geologists, and Paleontologists, and yet none can pass judgment upon it. The author still counts them anomalous, and entirely unique.

As to the mode of occurrence, it ought to be repeated that the corkscrews occur on the Pine Ridge table lands, and stretch in area over four or five hundred square miles, as far as explored. In vertical range they extend through one hundred and fifty or two hundred feet, or even more. The beds lie chiefly in Sioux county, in the extreme northwest corner of Nebraska. How far they extend to the east, or to the west in Wyoming, is not determined. The Niobrara river is roughly the southern limit, and the White river, the northern. They have frequently been reported two hundred miles east of this point, and one hundred and fifty to two hundred miles south. The author has not as yet been able to prove or disprove the statements of his informants, though holding them in doubt.

It seems entirely evident that the Daimonelix beds are sedimentary throughout. If aqueous, then the "accident," or the rodent burrow, or the plant, was submerged, and difficulties are at once met with. If aerial, as some deposits are, then the rodent could burrow, it is true, but difficulties are encountered again in the case of the plant which occupied the same burrows, and which was apparently aquatic, resembling the red sea-weeds more closely than anything else; judging from sections studied thus far.

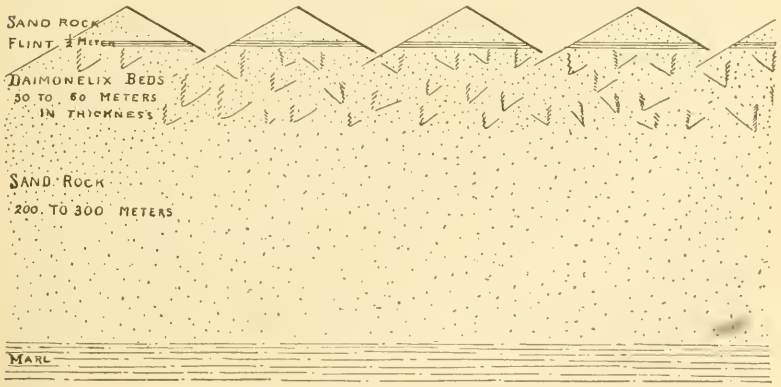


FIG 1.—Diagrammatic section showing the Daimonelix Beds at Eagle Crag, on Pine Ridge, near Harrison, Sioux Co., Nebraska.

The accompanying diagrammatic sketch of the fossil corkscrew beds, as seen at Pine Ridge, just north of Harrison, will give a fair idea of a section, although no accurate measurements were made, except at Eagle Crag. (See Figure 1.) The tops of all the surrounding hills are sand-rock underlaid by a layer of light yellow flint, a foot or two in thickness, which is quarried by the citizens of Harrison for foundation stones. Directly below this layer of flint comes a very homogeneous and fairly coherent stratum of sand-rock some eight hundred to one thousand feet in thickness. The upper hundred, or more, feet of this layer constitutes the Diamonelix beds. It must not be inferred from this that there is any break whatever between the Diamonelix beds and the rest of the layer. On the contrary there is none. The marked uniformity of the whole layer suggests continuity of sedimentation and freedom from those seasonal variations which effect sediments. Below comes marl, the continuation of which to the north becomes the Bad Lands of the Hat Creek Basin. The whole deposit seems undoubtedly and unquestionably aqueous in its origin. How, then, could an animal have burrowed? Possibly he burrowed around the edges of a retreating inland sea. The author's observation would lead him to say no. However, the strata here dip to the south and east, and the suggestion above will be followed out by the study of these beds during the summer of 1894.

The reasons for assuming that these fossils were contemporaneous with the sediment around them are embodied in the accompanying description.

Plate 1 shows Eagle Crag from the west. Three sides of the Crag rise by nearly vertical walls. In the field, if not in the cut, giant corkscrews can be seen on every hand through a vertical range of at least one hundred feet. The slanting summit of Eagle Crag shows the tops of many corkscrews weathered out on every level. Our best specimens were obtained here, in some cases from walls entirely vertical.

Plate I.

Fifty feet below the summit of the Crag, just to the east, is an extensive blow-out of several acres in extent, swept bare by the winds. Here one finds the tops of innumerable corkscrews exposed. Here also the fossil corkscrews occur on every level, as all the vertical exposures plainly show. A few rods north of this, and from fifty to one hundred feet below it, in the bed of a small canon, the water of an intermittent stream has exposed the summits of many of these. Above them, in the sides of the canon, occur great numbers of others at all levels.

In every exposure, whether made by the force of the wind or water, the same condition prevails, and fossil corkscrews can be found at all levels in a vertical plane, and everywhere in a horizontal plane. This seems to point to the fact that the corkscrew, following the sedimentation, built upwards on different levels, as the sand-rock was deposited.

One not familiar with the whole lay of the land in this region may assume that these were burrows built in the sides of hills after they were eroded into their present shape. It would be very difficult under this assumption to account for the fact that in the same plane for a distance of thirty-five to forty, or more, feet, one finds these corkscrews superimposed, one directly above another, on all levels. This simply means a burrow forty to fifty or even one hundred feet deep, as shown at Eagle Crag and in other vertical sections. The depth to which animals burrow scarcely exceeds eight feet. Then if such an impossible burrow could have existed, why not find it fossilized throughout its entire length? Instead of fossil corkscrews thirty or forty feet in height, we find them averaging about six or eight. The fact that we find these fossils one below another and still others below them, lying in the same vertical plane, suggests that they must have built up along with the sediment, or else they were bored downward from the surface to different levels.

It must be borne in mind in this connection that the work of solidifying an incoherent sand into a fairly coherent rock re-

quires time. And time is required for fossilization as well. Therefore, the assumption that these fossils were burrows in the sides of modern hills, seems untenable. So rapid is the work of erosion here that the region is cut out and gullied at such a rate that verdure cannot get a footing. Much less time, then, is allowed for burrowing and for the fossilization of the same.

Another thing: it often happens that there are hard concretionary layers lying horizontally in the sand-rock; layers too hard for our well-tempered tools—therefore certainly an irresistible barrier to burrowing animals. Yet underlying this layer, and abutting directly against it are the tops of many fossil corkscrews. It certainly suggests that these rocks were laid by sedimentation over them.

This hard concretionary layer often protects the softer underlying rocks from excessive weathering, and so these corkscrews are in some cases weathered out entirely, and there they stand like fine spiral columns supporting the shelving rock above.

As far as the author's observations go, this whole region is sedimentary, and the fossils followed the sediment upward through one hundred and fifty to two hundred feet, or more, of deposit. Some of the above points may have more meaning to those interested if they will examine plate I, which gives a view of Eagle Crag from the west.

The exposure here is somewhat over one hundred feet, and it may help in judging of heights and distances to have attention called to the two workmen digging at the corkscrews, one above, the other below. The more abrupt portions of the crag are thirty-five to forty feet high, and inspection will show, even in the greatly reduced picture, many corkscrews on various levels. However, granting that this fossil is nothing more than the burrow of an animal, it loses none of its interest, for in that case we have preserved a most remarkable burrow, as well as the skeleton of the animal which dug it. And, what

Plate II.

still further enhances its interest, and increases the many anomalies and perplexities, is the indisputable fact that the self-same burrow was occupied by a plant whose nature is yet to be determined. The entire surface of these fossils is one tangle of ramifying, intertwining tubules, varying in diameter from one sixty-fourth to one-eighth of an inch. Some are a full fourth of an inch, although the average is about one thirty-second of an inch.

This structure can be seen in Plate II, (See also Plate VIII.) and is characteristic of every specimen, and of every part of each specimen; the transverse piece, as well as the spiral.

The sand-rock in which they are encased is sufficiently coherent to make the task of collecting quite laborious. It has to be picked and chiseled away slowly, but when the fossil is cleaned as far as possible from the surrounding rock, it presents to view an exterior made up entirely of pure white tubules against a darker background. The author has now cut sections of these tubules from every part of many specimens, and all invariably show the same plant structure, such as is figured in plates II, III, VIII, IX, XI. All these sections show a structure that is cellular, but not vascular. The hypodermal cells, as shown by some sections, are arranged in very nearly regular radiating lines. As yet no central vascular cylinder has been detected in any of the large number of sections which have been cut.

In the very first section of these corkscrews, ground when the first specimen was found, this same plant structure was detected, and described in a former paper. At that time it seemed so impossible to believe it a plant that it was suggested that possibly it was a modern rootlet which had found its way down to these fossils. However, it seems to be an unmistakable truth that this structure pervades every portion of the fossils. Of course, to arrive at any definite law or facts respecting the structure, it would be necessary to prepare large numbers of slides from every portion, inside and out, of these

specimens. This is a task of no small moment, but it will eventually be done.

It is an interesting fact in this connection that these small tubules seem to grow more densely clustered as we pass inward, and finally, as it were, thicken into a white, solid, compact wall. Sometimes this wall is nearly an inch thick, and a pretty fair idea of it can be obtained from Plate III, Fig. 2.

Within this wall, and circumscribed by it, is a core of sand-rock irregularly traversed longitudinally by large tubes, and transversely by minute tubules.

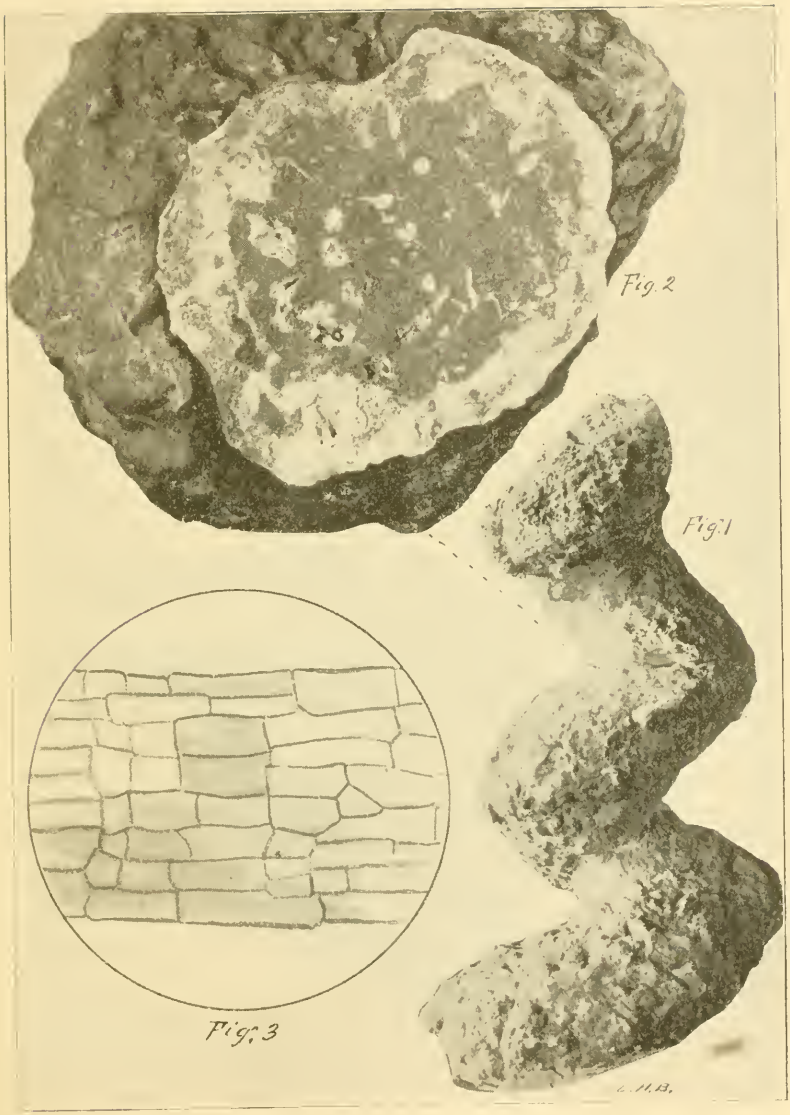
A section cut across this compact, hard, nearly homogeneous wall, when examined under the microscope, shows plant tissue arranged in fibres, apparently exactly like those on the outside; and the whole looks as if the adjacent tubules had so thickened their walls that they had come in contact and formed one hard solid white mass. When the superficial net-work of interlacing tubes is broken away from the fossil it leaves below a rock of shell-like whiteness.

In case of exposure, this delicate tube structure, so nicely brought out thereby in some cases, is sometimes almost entirely weathered away in others, but a cross-section of the specimen will plainly show its presence, in the latter as well as the former.

Another point which seems to be established is, that the tubules so numerous on the surface extend in limited numbers in every direction entirely throughout the specimen from the side walls to the center of the corkscrew.

The tubules which traverse this central core, are continuations of those on the surface, and differ in no respect now apparent. This perhaps may rank as evidence of a certain kind, that these fossil spirals had a purely vegetable origin. Unless perchance we conceive of an imaginary plant as having lined this old time burrow, or assume that the plant structure observed is simply that of the plant-food with which the old-time gopher lined his hole.

Plate III.



If the burrow of an animal, and in no way related to a plant, then it seems strange that these delicate tubes should pervade the whole specimen. If a burrow of an animal, then it is very remarkable indeed that animals could bore holes with such unvarying precision: some with a central axis, some without; some big and some little, but each and every one of them inhabited by a plant, which grew unmolested by the rightful occupant.

As has already been mentioned in the first paper relating to these peculiar fossils, a small rodent was found in the transverse piece at the base of the spiral of Daimonelix. This rodent is apparently well preserved, and although small and exceedingly difficult to work out, yet it is believed that when time for the work can be found, every bone can be correctly figured and described. When the rodent already mentioned has been studied, it may have a very direct bearing on the matter. Its size agrees entirely with what we might expect.

But in this connection one should keep in mind the fact that while we have in this rodent an animal small enough to have been the original occupant of a fossil corkscrew, yet Plate IV shows the bones of an animal of such structure and size that it is entirely impossible that it burrowed. The smaller animal was found enclosed within the fossil corkscrew; so was the larger one. If the one is proof of a burrowing animal, why is not the other? It is an animal fully the size of a large deer. The femur and tibia are doubled together and a series of vertebrae laid across them. Just enough of this specimen has been cleaned from the encasing corkscrew to show its nature, without disturbing any more of the fossil which enclosed it than seemed absolutely necessary. The length of the femur is about thirteen inches, that of the tibia about the same.

If the mere fact of finding bones within this fossil proves that it is a burrow, then why have we not proof that this large animal burrowed as well as the small one?

The fact that these two animals are found within these fos-

Plate IV.

sils is not unquestionable evidence that they were the inhabitants of the burrow; possibly in each case the fossil grew around the skeleton.

Each and every well cut section shows parenchymous tissue, no matter from what specimen or from what portion of each individual specimen the section is made. There has not been an exception to this.

In longitudinal sections, average cells vary from 35 micromillimeters to 50 micromillimeters.

In cross section they measure about 16 micromillimeters.

In many cases, in longitudinal section, two or more rows of long cells alternate with rows of short ones. The structure is plainly and unmistakably vegetable.

PAPERS.

Notice of New Gigantic Fossils, Science, February 19.

On a New Order of Gigantic Fossils, University Studies, University of Nebraska, July, 1892.

Additional Notes on the New Fossil, Daimonelix. Its Mode of Occurrence, its Gross and Minute Structure. This present Paper, in University Studies, July, 1894.

The University of Nebraska, Lincoln, Neb., U. S. A.
June 1, 1894.

EXPLANATION OF PLATES.

PLATE I. View of Eagle Crag, on Pine Ridge, near Harrison, Sioux Co., Nebraska, from the west, showing fossil corkscrews at various levels. Two workmen may be seen, one above, the other below. A large view of the latter may be had in Plate VII. Surface and minute structure may be seen in Plate VIII.

PLATE II. Fig. 1—Portions of a large *Diamonelix*, showing gross structure, which consists of an interminable tangle of ramifying tubules. The general surface presents a corrugated appearance. Fig. 2—A view of the surface structure of the above, reduced about one-half. Fig. 3—Section cut from the above, showing microscopic structure.

PLATE III. Fig 1—*Diamonelix* as found weathered out. Fig. 2—section across the same, as indicated by dotted line, showing white wall and, lesser and greater tubules. Fig 3—A section cut from the thickened wall of Fig. 2, showing cells in longitudinal section.

PLATE IV. A portion of a large *Diamonelix* enclosing the bones of a Mammal. The femur, tibia, calcaneum, part of ilium, and a series of twelve or fourteen vertebrae are partly worked out. Length of femur, 13 inches; length of tibia, 10 inches.

PLATE V. View of a pair of fossil corkscrews as they appeared when partly worked out. Height, 7 feet 9 inches.

PLATE VI. View of a fossil corkscrew in bluffs near the Niobrara River, showing students at work.

PLATE VII. View of a fossil corkscrew at Eagle Crag, as it appeared when partly dug out, with workman and judge of the county introduced to give an idea of size. See also Plate I, near bottom.

PLATE VIII. Figure 1 shows the surface structure of the *Daimonelix* figured in Plate VII. Figures 2 and 3 show respectively longitudinal and transverse sections of plant cells.

PLATE IX. Fig. 1—Large *Daimonelix* found weathered out. Fig. 2—A photo-micrograph of a section made from the same, showing cellular structure. Fig. 3—Another section from same, showing plant cells cut longitudinally. Fig. 4—A tubule, natural size, such as the whole surface of all fossil corkscrews is composed of, from which the sections were made.

PLATE X. *Diamonelix*, and student at work digging out the same, as seen in the core of a blow-out near Eagle Crag. See also Plate XII.

PLATE XI. Figs. 1 and 2—Two views of the *Diamonelix*, shown in Plate X, as it now appears in the State Museum. Fig. 3—Cross section of a tubule from the above. Fig. 4—Longitudinal section of tubule from the above.

PLATE XII. A general view of the *Diamonelix* collection in the State Museum, University of Nebraska. A full grown man is introduced in the background to assist in judging of size.

Plate V.

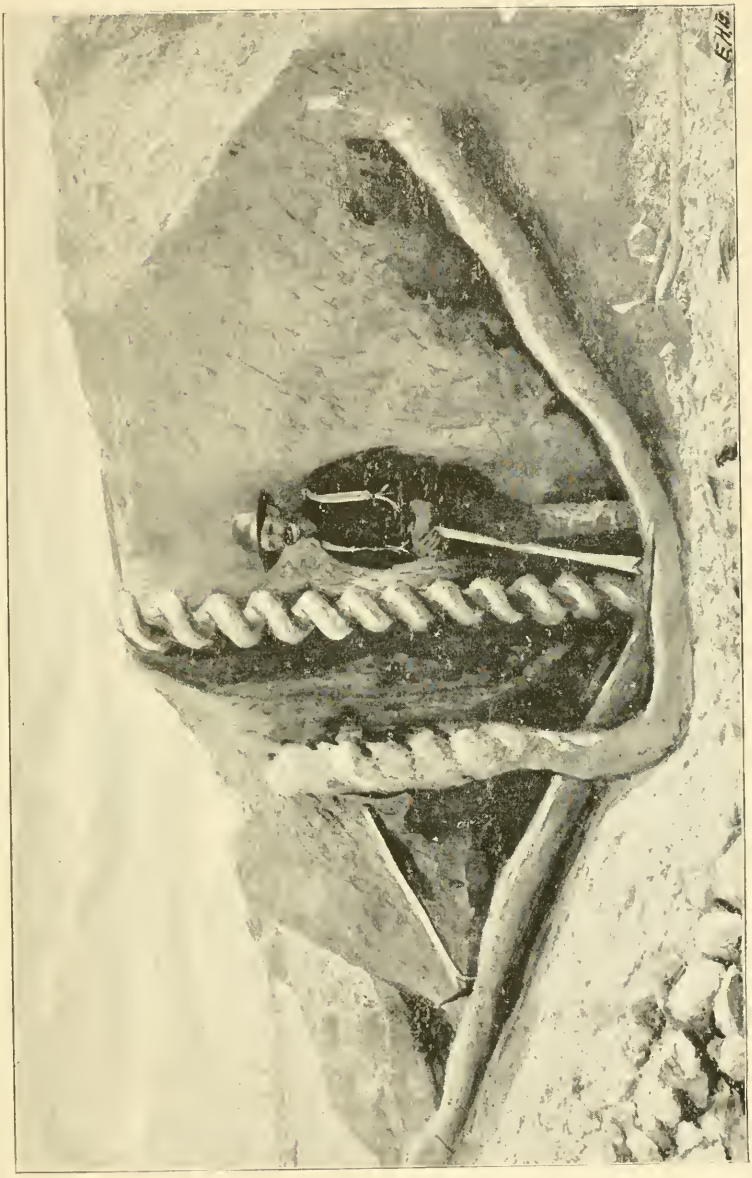


Plate VI.

Plate VII.

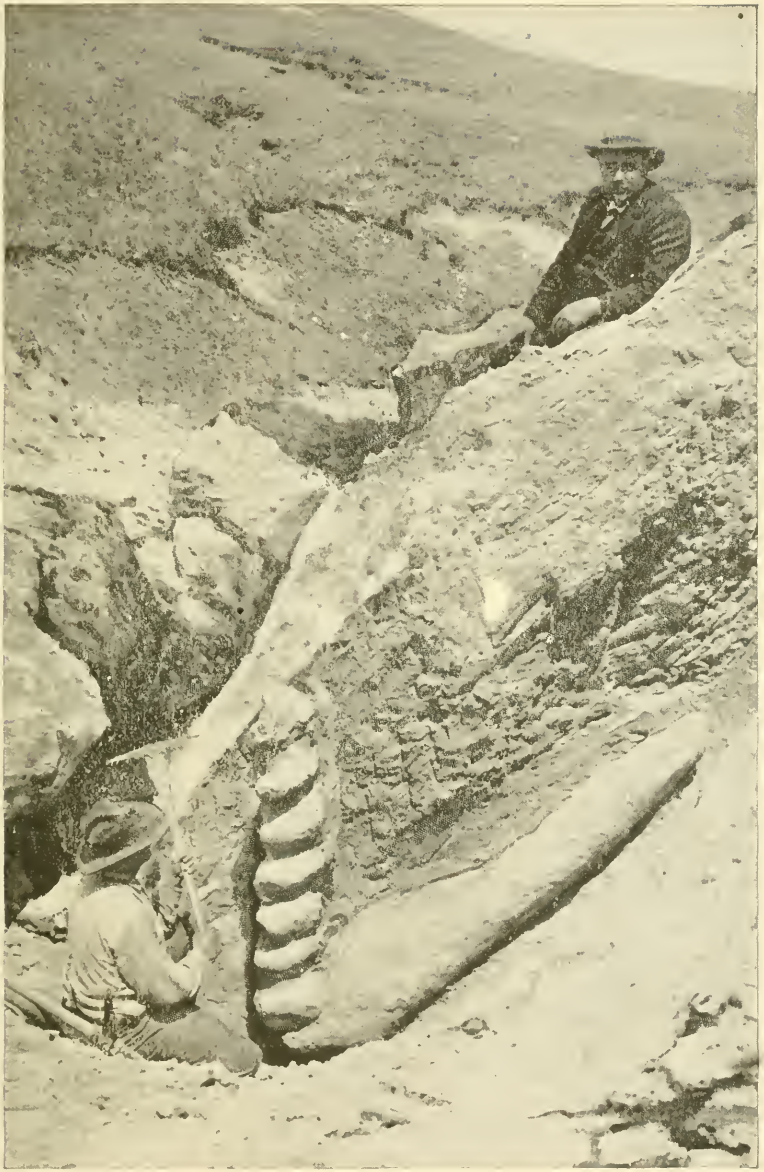


Plate VIII.

Fig. 1

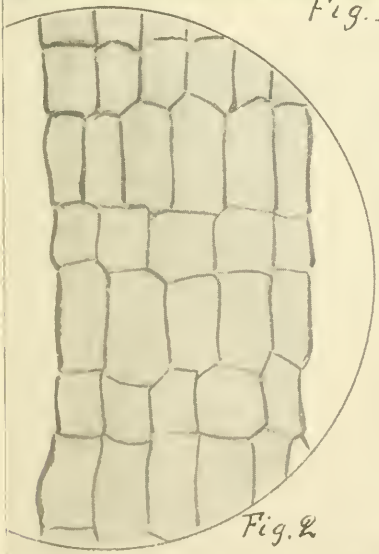


Fig. 2

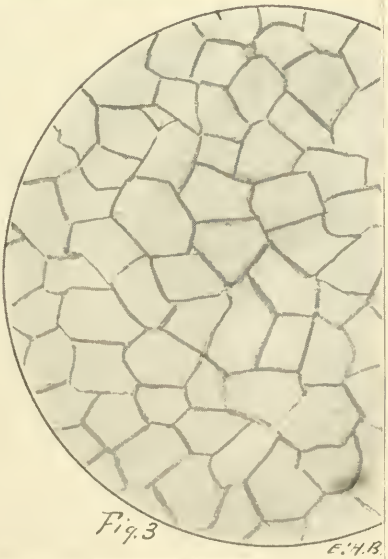


Fig. 3

E. H. B.

Plate IX.

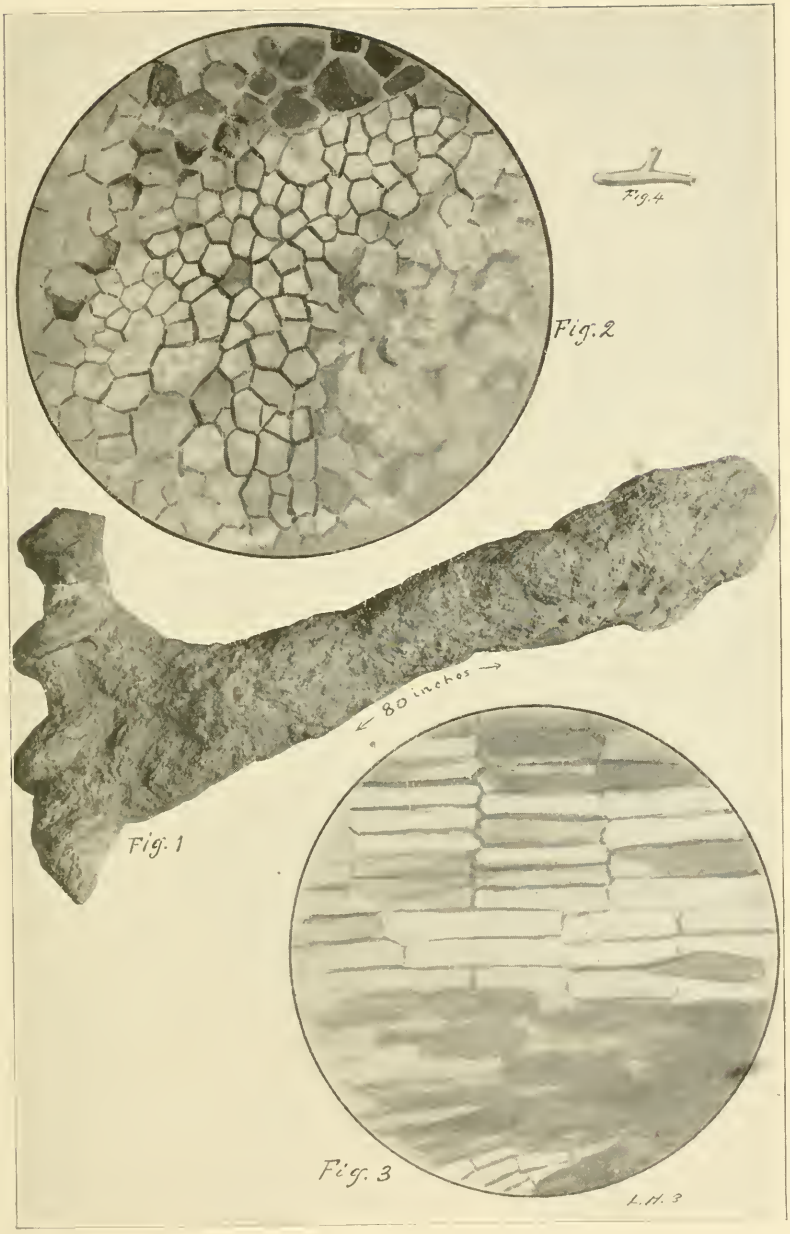


Plate X.

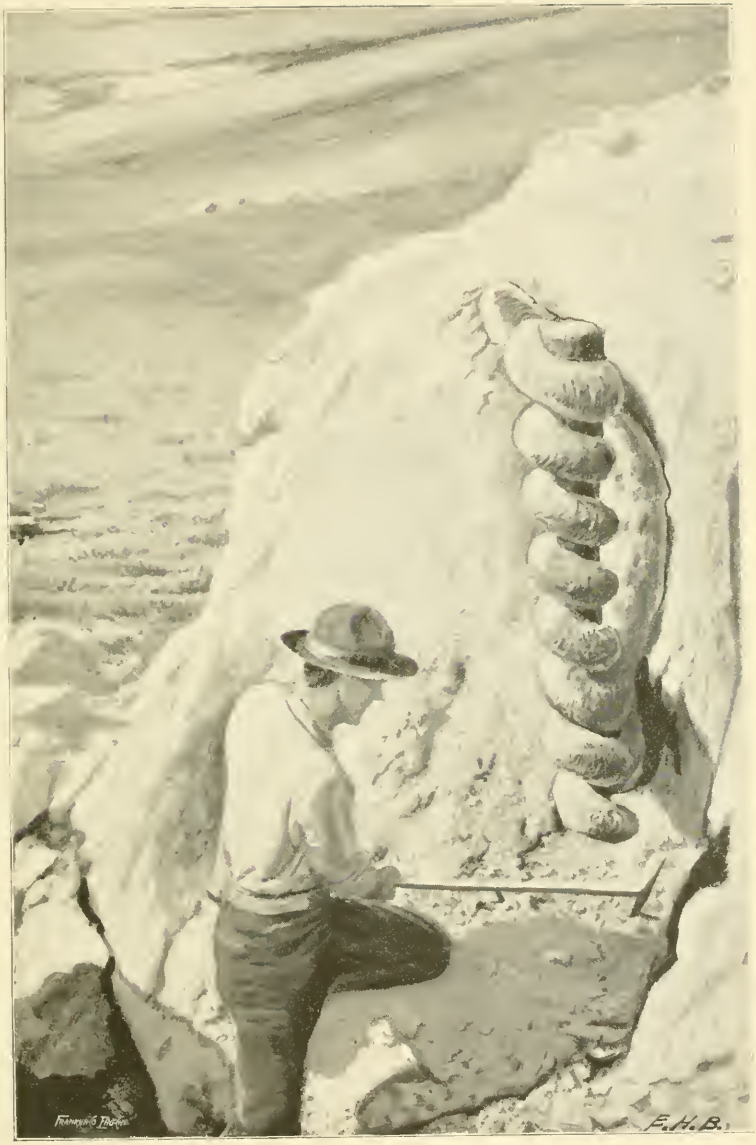


Plate XI.

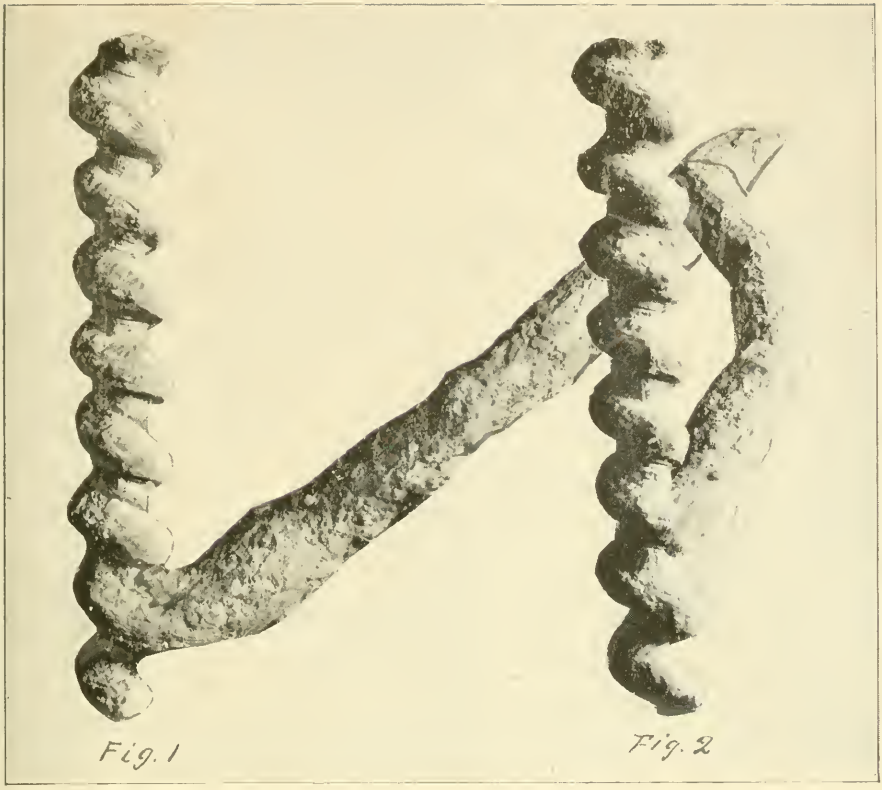


Fig. 1

Fig. 2

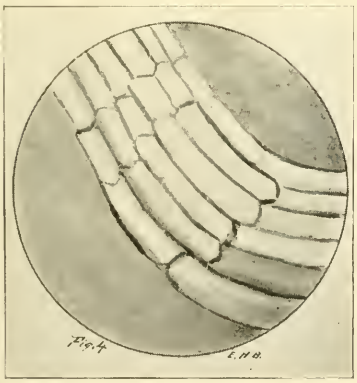


Fig. 4

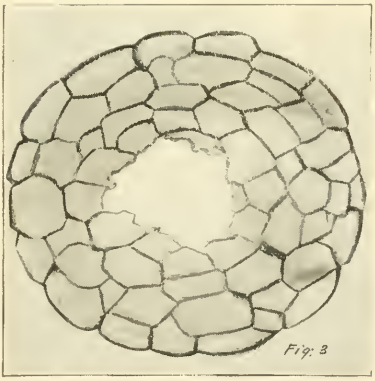
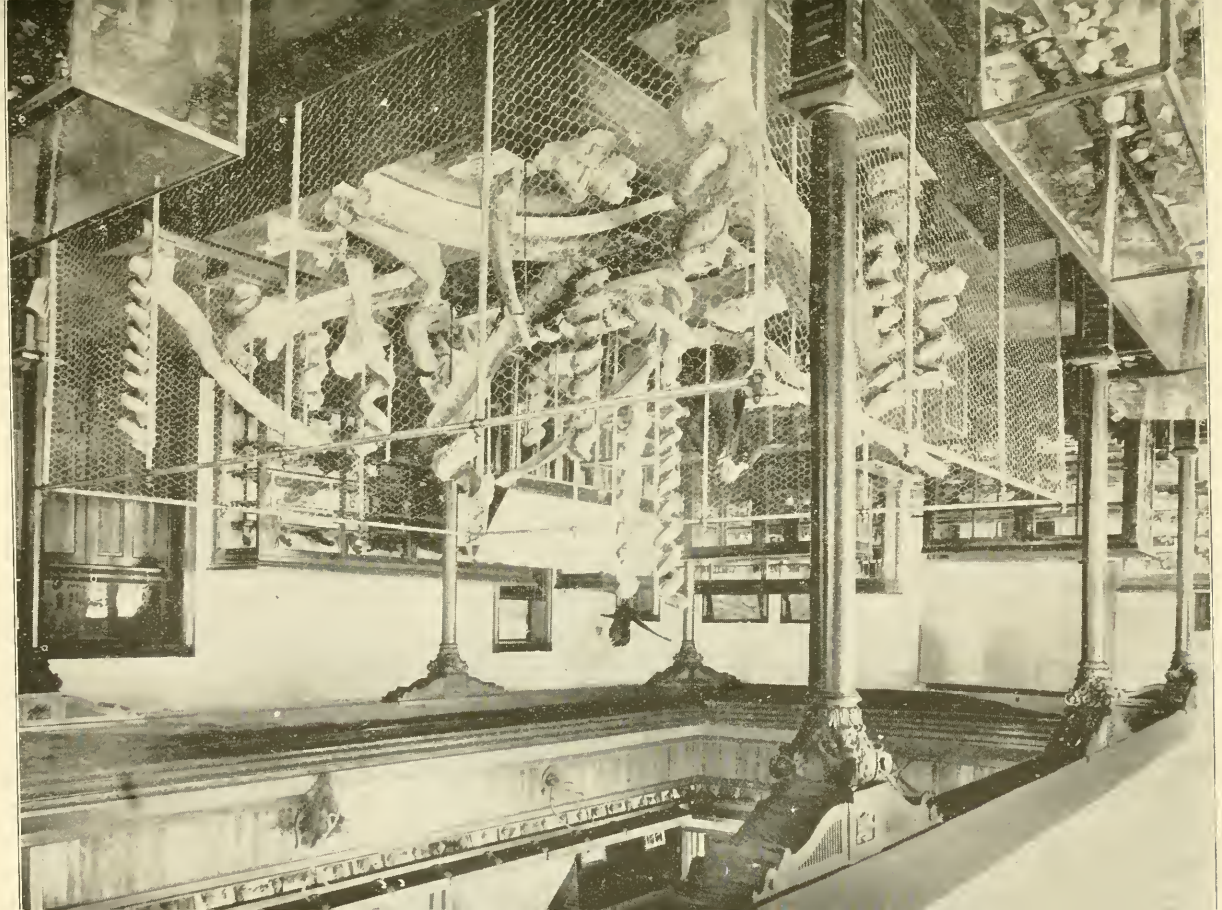


Fig. 3



II.—*On the Decrease of Predication and of Sentence Weight in English Prose.*

By G. W. GERWIG.

In a recent paper printed in these *Studies*, "On Certain Facts and Principles in the Development of Form in Literature" (Vol. I, No. 4), Professor Sherman has given the method and results of his investigation into English sentence length. This article is a continuation of that work. As was there noted, the English sentence has gone through a period of coordination, of subordination, and of suppression of clauses. Professor Sherman found that the sentences of modern writers are approximately fifty per cent lighter in structure than of authors like Chaucer, Ascham, and Lyly. He noted that the early writers habitually put a number of predications in each period, while writers of our day use but few. He noted also that recent writers employ a great many sentences containing but a single predication, while in the earliest prose a simple sentence rarely occurs. At Professor Sherman's suggestion I undertook to discover whether there was any consistent development, either in the average number of predications per sentence in various authors, or in the percentage of simple sentences used by each.

A very little investigation served to convince me that the same remarkable uniformity which had been found in the average number of words used by any given author per sentence would also hold in regard to the number of finite verbs, or predications, found in each sentence. The results obtained convinced me also that there was a uniformity in the number of simple sentences per hundred of a given author. Every full stop, marked by the use of a period, an interrogation point, or an exclamation point, followed by a capital letter, was taken as the limit of a period, and the number of finite-verb forms in it,

counted and recorded. A record was also made of the number of sentences found to contain but a single predication. The following sentences will illustrate the method: "There I feel that nothing can befall me in life—no disgrace, no calamity (leaving me my eyes) which Nature cannot repair. She heals everything." In the first period the predications are 'feel,' 'can befall,' and 'cannot repair,'—three in number. 'Leaving' is merely a participle without copula, and will be omitted from consideration for the present. The second is a simple sentence, 'heals' being the only predication.

The Tale of Melibeus contains 480 periods. There are in these 480 periods 2507 predications, or an average of 5.22 predications in each sentence. There are also in the 480 periods but twenty simple sentences—a trifle over four per cent. The following are the results from 2500 periods of Macaulay in groups of 500 each:

	Av. number predications per period	Per cent. simple sentences
1st 500 periods	2.32	34.
2nd 500 periods	2.32	32
3rd 500 periods	2.33	28
4th 500 periods	2.16	36
5th 500 periods	2.18	32
Average 2500 periods	2.26	32

There is but a slight variation between the groups. Other authors were taken in the same way, until it was demonstrated that the average of 500 periods of any author who had achieved a style was approximately the average of his whole work. A record of the investigation into the styles of one hundred representative authors, embracing averages of about 65,000 periods, is here presented. The average of each hundred periods is given separately.

In prose, for the sake of uniformity, an attempt was made to select works written in the essay style. An investigation of descriptive or novel styles would perhaps be equally inter-

esting. In poetry blank verse was taken wherever practicable, or at least long lines, in which verse requirements place but little arbitrary restriction upon the sentence structure. Punctuation was taken just as it was found, though it often does early writers evident injustice, and puts Mandeville (p. 7) among the moderns. The figures from Shakespeare are of course merely provisional. It would be manifestly unfair to compare truncated, dramatic dialogue, abounding in exclamations and broken sentences, with the even flow of the *Hind and the Panther*. In Shakespeare, therefore, only passages three lines or more in length, whether in poetry or prose, were taken. The uniformity of the results makes it at least safe to affirm that Shakespeare appreciated the utility of simple sentences, and the strength enabled by a low average of predications.

The summary of results from the prose styles (pp. 6, 7) is arranged in order of decrease in average predications. It will be noticed that this uniform decrease, as well as the corresponding increase in the percentage of simple sentences, follows quite closely the chronological order. While Chaucer and Spenser habitually put over five main verbs in each sentence they wrote, and less than ten simple sentences in each hundred, Macaulay and Emerson used only a little over two verbs per sentence, and left over thirty-five sentences in each hundred simple. John Addington Symonds marks approximately the highest development in studied prose, showing 1.84 verbs per period, and fifty-eight simple sentences out of each hundred. Styles registering as low as 1.65 verbs and as high as 65 simple sentences, since found in monograph literature but not in books, are excluded here. It is gratifying to find the results from Grant, Everett, Blaine, and Henry James among the best. The average of one-half the articles in a recent number in the *Forum* exhibits our usual magazine style.

The results have been made to include (p. 7, 8) somewhat of the development in poetry as well as in prose. Chaucer was far ahead of his age in his poetry, but not in his prose. Dr

Donne furnishes a sentence containing 135 predications and 888 words. The question incidentally arose whether a writer had the same sentence structure in poetry as in prose, and a few comparisons (p. 8) are presented. Chaucer, Lowell, and Matthew Arnold differ greatly, the first excelling in poetry, the last two in prose. Milton (in Paradise Regained), Wordsworth, and Shakespeare on the other hand write almost the same in poetry as in prose. A few results gathered from foreign classics (p. 8) are likewise added.

The earliest writers began by giving every verbal idea the form of a finite verb. As they frequently wrote sentences containing twenty or more verbs, all of the same grammatical value or weight, it was an impossibility to tell which of the twenty the author meant should be the main or emphatic one. They had no conception of what is technically known as verb or sentence accent. This was gradually corrected by using unpredicated forms and constructions to express subordinate relations.

The manifest effect of such verb-suppression is a lightening of the style of the authors engaging in it. A partial effort was made to find out the line of this movement, but no complete or final results were obtained. The number of clauses saved by the substitution of present and past participles or by the use of appositives was noted, and is made a systematic part of the present exhibits. No especial value is claimed for the results, except perhaps as an aid to later investigators. That there has been development will be immediately apparent. The ten authors showing the highest and the ten showing the lowest per cent of clauses saved are given.

Mandeville	.30	Wordsworth	11.35
Chaucer	.60	Blaine	11.71
Latimer	2.78	White	11.88
Bacon	2.87	Browning	12.80
Emerson	3.01	Scott	13.03
Everett	3.31	Barrow	13.54

Addison	3.72	*Forum*	13.59
Bolingbroke	3.72	Pater	13.74
Holland	3.76	Hume	14.71
Shaftsbury	4.02	Greeley	17.04

This exhibit of course includes only the verb-suppressions through aid of the simplest substitutes. That there has been a similar saving by the use of verbal nouns, gerundive constructions, and other devices will be apparent to any student. The discovery of just how far and in just what direction this saving has gone is left for more especial and expert inquiry. The object of this investigation, as has been said, was to determine the course and extent of predicational decrease together with the growth of the simple-sentence structure. On completing that inquiry it seemed to me worth while to demonstrate, by a specific test, the principle taken throughout for granted, that each author has his own consistent predicational as well as simple-sentence average. Following Professor Sherman's similar test for constancy of sentence length, I used Macaulay's *History of England*, through forty thousand periods. The summary of results here found is given on pp. 9-11 ; the several entries showing the results for consecutive hundreds throughout. At the end of all will be added an alphabetical exhibit of all authors examined, with entries of predicate and simple-sentence averages under separate hundreds.

In regard to predicational development in individual styles the following may be of interest.

Author	Work	When written	Number periods	Av. Pred. per period	Simple sent.
Channing	*Milton*	1826	534	2.68	29
	Napoleon	1827	1032	2.57	31
	Self-Culture	1838	737	2.51	31
	Duty of Free States	1842	500	2.14	40
	Lenox Address	1842	586	2.08	43
Average				2.42	34

Author	Work	When written	Number periods	Av. Pred. per period	Simple sent.
Macaulay	*Royal Soc. of Literature*	1823	100	2.03	44
	Dante	1824	100	2.15	38
	Milton	1825	895	2.07	38
	Machiavelli	1827	693	1.88	47
	History, Essay on	1828	749	2.18	40
	Dryden	1828	100	2.65	29
	D'Arblay	1843	918	2.31	32
	Addison	1843	1331	2.22	32
	Atterbury	1853	240	2.35	34
	Bunyan	1854	245	2.19	31
	Goldsmith	1856	263	2.29	33
	Average			2.17	36

Channing shows a uniform improvement, while Macaulay seems to have done his best work in the *Milton* and *Machiavelli* essays, which took the world by storm at the beginning of his career.

PROSE

Author	Work	Number periods	Average pred.	Simple sentences	Clauses saved
Spenser	*View of State of Ireland*	1069	5.44	8	6.74
Chaucer	*Melibeus*	480	5.22	4	.98
Dryden	*Dramatic Poesy*	521	4.89	6	4.88
Milton	*Areopagitica*	500	4.87	6	9.31
Latimer	*Sermons*	500	4.75	13	2.78
Hakluyt	*Voyages*	500	4.22	12	17.54
Chaucer	*Person's Tale*	826	4.17	8	.34
Hooker	*Ecclesiastical Polity*	500	4.12	12	8.73
Steele	*Spectator, Lover Papers*	500	4.02	10	5.09
Sidney	*Defense of Poesy*	473	3.98	10	9.27
Bunyan	*Holy War*	500	3.91	10	5.92
Wordsworth	*Essays, Letters, Notes*	500	3.87	17	11.35
Howells	*Criticism and Fiction*	500	3.74	11	4.89
Barrow	*Sermons*	500	3.74	20	13.54
Swift	*Tale of a Tub*, etc.	500	3.69	13	9.23
DeQuincey	*Opium Eater*	500	3.69	14	5.49
Addison	*Spectator*	500	3.67	12	3.72
Very	*Essays*	500	3.67	11	8.55
Bolingbroke	*Study of History*	977	3.65	14	3.72
More	*History of Richard III*	500	3.65	15	8.39
Luke	*Gospel*	500	3.62	10	7.52
Lyly	*Euphues*	500	3.50	17	10.21
Ruskin	*Kings' Treas., Sesame*	718	3.50	18	6.63
Ascham	*Schoolmaster*	500	3.49	19	4.31
Gladstone	*Might of Right*	500	3.43	16	5.60
Moore	*Life of Byron*	500	3.38	11	10.33
Scott	*Life of Napoleon*	500	3.36	16	13.03
Huxley	*Some Controverted Questions*	500	3.36	16	7.22
Coleridge	*Poetry, Drama, Shakespeare*	500	3.33	19	11.10

Author Work	Number periods	Average pred.	Simple sentences	Clauses saved
Hume *History of England*	500	3.29	12	14.71
Johnson *Lives of Poets*	500	3.23	16	7.09
Paul *Corinthians*	500	3.22	15	4.80
White *Natural History of Selborne*	500	3.15	15	11.88
Carlyle *Essays*	500	3.12	18	7.08
Bacon *Essays*	500	3.12	19	2.87
Browning *Introductory Essay*	139	3.12	23	12.80
Mandeville *Voyages and Travels*	500	3.08	22	.30
Franklin *Autobiography*	500	3.04	19	10.27
Holland *Plain Talks*	500	3.03	21	3.76
Stevenson *Memories and Portraits*	500	3.01	24	8.41
Newman *Apologia*	500	2.97	16	4.50
Goldsmith *Bee, Citizen of the World*	500	2.95	18	6.35
Munger *Appeal to Life*	500	2.93	26	6.32
George *Prog. and Pov. Land Ques.*	500	2.92	23	6.19
Browning (?) *Life of Strafford*	500	2.91	25	7.14
Choate *Addresses and Orations*	500	2.88	30	7.48
Thoreau *Walden*	500	2.86	25	8.62
Hamerton *Intel. Life, Painter's Camp*	500	2.85	20	5.87
Higginson *Women and Men*	500	2.85	21	6.31
Arnold *Essays*	500	2.77	20	4.51
Shakespeare *W. Tale, Cmyb., Ham.*	500	2.76	31	4.46
Pater *Appreciations*	500	2.74	26	13.74
Fiske *Idea of God*	500	2.69	20	5.87
Darwin *Descent of Man*	500	2.64	21	11.15
Shaftsbury *Freedom of Wit and Humor*	650	2.61	28	4.02
Disraeli *Curiosities of Literature*	500	2.57	27	7.34
Greeley *American Conflict*	500	2.56	26	17.04
Lowell *Lessing*	683	2.54	23	4.76
Junius *Letters*	500	2.54	26	6.13
Shelley *Essay on Christianity*	335	2.48	26	8.27
Phillips *War for Union and Cabinet*	500	2.47	33	6.85
Channing *Lenox, Napoleon, Milton*	2000	2.47	34	6.55
James *French Poets and Novelists*	500	2.45	24	5.76
Forum, March 1893	500	2.42	32	13.59
Grant *Memoirs*	500	2.34	31	8.93
Geikie *Life of Christ*	500	2.34	32	10.84
Everett *Poetry, Comedy and Duty*	1000	2.27	32	3.31
Blaine *Twenty Years of Congress*	500	2.23	29	11.71
Emerson *Essays*	1438	2.23	41	3.01
Macaulay *Essays*	5604	2.17	36	5.06
Bartol *Radical Problems*	1500	2.10	44	7.60
Phelps *My Study*	500	2.03	50	5.58
Symonds *The Greek Poets*	500	1.84	58	10.00
POETRY				
Donne *Poems*	500	6.29	4	4.81
Milton *Paradise Lost*	500	5.68	8	9.89
Lowell *Poems*	500	5.48	11	10.78
Byron *Childe Harold*	500	5.20	16	7.76
Spenser *Faerie Queene*	500	4.93	6	11.15
Milton *Paradise Regained*	500	4.88	12	10.30
Hood *Poems*	500	4.82	10	13.68

Author	Work	Number periods	Average pred.	Simple sentences	Clauses saved
Shakespeare	*Sonnets*	500	4.42	8	7.66
Moore	*Lalla Rookh*	500	4.22	10	11.90
Arnold	*Sohrab and R., Balder Dead*	500	4.05	14	4.70
Very	*Poems*	500	4.01	12	9.31
Pope	*Essays on Man* and *Criticism*	500	3.89	12	5.30
Wordsworth	*Excursion*	500	3.86	12	20.27
Browning	*Sordello*	500	3.62	25	11.54
Chatterton	*Poems*	500	3.60	17	13.00
Dryden	*Hind and Panther*	500	3.58	7	10.05
Keats	*Endymion*	500	3.58	23	13.21
Burns	*Poems*	500	3.49	17	7.53
Browning	*Ring and the Book*	500	3.48	26	5.03
Scott	*Lady of the Lake*	500	3.44	17	8.22
Shelley	*Poems*	500	3.21	20	11.07
Holland	*Kathrina*	500	3.18	21	8.66
Coleridge	*Poems*	500	3.10	22	18.24
Chaucer	*Canterbury Tales*	500	2.93	24	2.54
Shakespeare	*Love's L. L., Tempest*	1000	2.79	27	3.97
Thomson	*Liberty*	500	2.71	26	20.92
Ossian	*Poems*	500	1.46	64	3.90
	FOREIGN				
Manzoni	*I Promessi Sposi*	200	3.85	9	3.14
Dante	*Inferno*	300	3.70	5	4.38
Vergil	*Aeneid*	227	3.24	14	14.16
Cicero	*De Senectute*	370	3.22	21	5.77
Homer	*Iliad*	500	3.02	15	21.16
Herodotus	*Erato*	500	2.63	30	47.01

COMPARISONS

Author	Average Predications		Simple Sentences		Clauses Saved	
	POETRY	PROSE	POETRY	PROSE	POETRY	PROSE
Milton	5.68 / 4.88	4.87	8 / 12	6	9.89 / 10.30	9.31
Lowell	5.48	2.54	11	23	10.78	4.76
Spenser	4.93	5.44	6	8	11.15	6.74
Moore	4.22	3.38	10	11	11.90	10.33
Arnold	4.05	2.77	14	20	4.70	4.51
Very	4.01	3.67	12	11	9.31	8.55
Wordsworth	3.86	3.87	12	17	20.27	11.35
Browning	3.62 / 3.48	3.12	25 / 26	23	11.54 / 5.03	12.80
Dryden	3.58	4.89	23	6	13.21	4.88
Scott	3.44	3.36	17	16	8.22	13.03
Shelley	3.21	2.48	20	26	11.07	8.27
Holland	3.18	3.03	21	21	8.66	3.76
Coleridge	3.10	3.33	22	19	18.24	11.10
Chaucer	2.93	5.25	24	4	2.54	1.02
Shakespeare	2.79	2.76	27	31	3.97	4.46

Average Preds.	Per ct. Simple	Average Preds.	Per ct. Simple	Average Preds.	Per ct. Simple	Average Preds.	Per ct. Simple
2.58	33	2.29	39	2.29	31	2.29	35
2.04	48	2.25	29	2.24	42	2.13	38
2.33	41	2.34	31	2.57	27	1.95	48
2.17	38	2.08	30	2.74	24	2.32	33
5..2.22	37	2.19	42	2.36	33	2.08	46
2.24	35	2.26	31	2.23	38	2.37	28
2.29	34	2.35	23	2.40	35	2.25	30
2.22	36	2.01	41	2.66	27	2.26	41
2.40	39	1.99	41	2.70	26	2.02	46
10..2.33	33	1.96	46	2.40	37	2.36	27
2.03	43	2.13	38	2.47	35	2.27	43
2.14	43	2.31	35	2.41	29	2.29	30
2.62	29	2.34	32	2.07	40	2.09	35
2.26	38	2.45	38	2.41	35	2.37	31
15..2.21	37	2.26	32	2.65	30	1.99	46
2.42	36	2.35	33	2.31	38	2.34	30
2.38	36	2.32	31	2.42	29	2.92	28
2.32	34	2.63	23	2.22	36	2.52	32
2.23	43	2.08	39	2.21	34	2.61	23
20..2.37	38	2.12	39	2.24	42	2.27	40
2.32	34	2.52	24	2.12	38	2.83	23
2.25	33	2.00	35	2.02	43	2.87	36
2.41	33	2.41	28	1.89	46	2.11	44
2.33	33	2.29	34	2.20	35	2.83	27
25..2.34	42	1.88	47	2.10	37	2.38	29
2.33	35	2.26	28	2.31	32	2.37	31
2.11	42	2.04	36	2.24	37	2.69	21
2.13	39	1.98	42	2.18	32	2.35	35
2.13	41	2.17	37	2.09	46	2.34	33
30..2.13	41	2.26	27	2.00	44	2.49	30
2.22	41	2.29	35	2.39	25	2.41	28
2.34	31	2.21	34	2.31	30	2.30	34
2.17	42	2.40	33	2.46	36	2.62	26
1.96	38	2.52	29	2.62	33	2.62	23
35..2.45	29	2.07	38	2.08	41	2.53	35
2.05	40	2.85	25	2.49	32	2.41	33
2.18	38	2.24	33	2.69	32	2.31	29
2.43	29	2.29	41	2.44	30	2.36	33
1.97	44	2.27	32	2.28	36	1.91	49
40..2.43	29	2.01	42	2.29	36	2.15	36
2.33	32	2.61	29	2.21	35	2.35	32
2.04	46	2.14	37	2.22	39	2.21	35
2.10	38	2.62	32	2.23	31	2.38	30
2.17	39	2.23	40	2.32	32	2.23	36
45..2.08	41	2.35	30	2.26	40	2.30	34
2.15	41	2.27	37	2.14	35	2.40	25
2.36	42	2.02	43	1.95	48	1.96	43
1.95	41	1.93	48	2.15	40	2.05	38
1.97	50	2.11	40	2.19	34	2.01	39
50..2.06	38	2.27	31	1.99	33	2.68	30

Average Preds.	Per ct. Simple	Average Preds.	Per ct Simple	Average Preds.	Per ct. Simple	Average Preds.	Per ct. Simple
2.24	38	2.02	45	2.15	36	2.34	35
2.10	42	2.14	36	1.97	43	2.21	37
2.16	35	2.06	46	2.32	33	2.33	36
2.33	30	2.44	30	2.17	40	2.30	28
5..2.53	30	2.66	30	2.33	38	2.40	37
2.46	30	2.09	34	2.24	35	1.97	44
2.34	32	2.37	26	2.64	21	2.33	33
2.34	37	2.07	43	2.57	27	2.50	27
2.69	24	2.39	30	2.41	32	2.33	36
10..2.35	35	2.57	33	2.69	24	2.27	37
2.49	28	2.51	28	2.39	35	2.40	34
2.30	32	2.22	29	2.30	33	2.20	28
2.43	30	2.40	33	2.46	27	2.61	28
2.35	27	2.37	38	2.26	38	2.48	33
15..2.57	34	2.15	28	2.62	31	2.40	30
2.41	24	2.06	35	2.46	32	2.33	30
1.95	43	2.59	24	2.22	31	2.08	41
1.99	40	2.32	33	2.17	32	2.22	38
2.41	30	2.68	25	2.19	33	2.36	37
20..2.37	35	2.56	25	2.46	27	2.15	43
2.43	32	2.10	36	2.64	24	2.30	37
2.11	34	2.19	21	2.44	29	2.14	34
2.55	28	2.12	37	2.47	36	2.53	32
2.43	23	2.33	35	2.26	39	2.23	33
25..2.30	31	2.09	41	2.17	38	2.49	31
2.18	33	1.88	41	2.28	38	2.39	38
2.36	29	1.77	49	2.42	30	2.69	26
2.35	39	2.27	36	2.05	38	2.32	36
1.93	23	2.35	35	2.22	36	2.37	34
30..2.50	30	2.20	39	2.15	36	2.27	43
2.20	34	2.68	26	2.22	40	2.23	40
2.34	38	2.33	32	2.60	33	2.67	22
2.45	36	2.30	30	2.29	40	2.02	44
2.26	36	3.08	13	2.23	32	2.49	32
35..2.36	34	1.97	37	2.43	29	2.23	39
2.41	30	2.58	27	2.35	36	2.33	32
2.50	24	2.53	30	2.73	18	2.43	40
2.34	27	2.44	27	2.56	30	2.65	24
2.20	36	2.32	28	2.63	23	2.44	28
40..2.38	30	2.24	34	2.66	26	2.32	37
2.48	27	2.49	31	2.18	39	2.50	31
2.56	22	2.28	31	2.20	31	2.45	31
2.57	24	2.32	36	2.08	40	2.28	39
2.49	32	2.41	35	2.31	30	2.21	29
45..2.26	34	1.89	41	2.11	40	2.52	31
2.58	23	1.94	37	2.10	44	2.33	32
2.41	29	2.01	45	2.69	28	2.14	38
2.25	33	2.15	35	2.62	32	2.34	36
2.10	44	2.26	39	2.33	32	2.21	40
50..2.15	38	2.11	36	2.41	30	2.13	41

The entries in the following columns are the averages, predicational and simple-sentence respectively, of the consecutive thousands. The footings are the averages by five thousands.

2.28	37	2.17	35	2.42	31	2.18	37
2.29	38	2.30	34	2.34	35	2.37	34
2.24	37	2.18	34	2.12	39	2.53	31
2.22	36	2.31	34	2.40	33	2.36	33
2.12	41	2.24	37	2.17	37	2.26	33
2.23	38	2.24	35	2.29	35	2.32	34
2.35	33	2.28	35	2.35	33	2.30	35
2.33	32	2.39	30	2.35	32	2.32	34
2.31	30	2.13	37	2.31	34	2.37	34
2.34	32	2.55	28	2.47	31	2.38	34
2.39	31	2.19	37	2.30	35	2.31	35
2.34	34	2.31	33	2.36	33	2.33	34

The following are the averages of the consecutive thousands as before. The footings are the averages by ten thousands.

2.28	37	2.42	31	2.35	33	2.35	33
2.29	38	2.34	35	2.33	32	2.35	32
2.24	37	2.12	39	2.31	30	2.31	34
2.22	36	2.40	33	2.34	32	2.47	31
2.12	41	2.17	37	2.39	31	2.30	35
2.17	35	2.18	37	2.28	35	2.30	35
2.30	34	2.37	34	2.39	30	2.32	34
2.18	34	2.53	31	2.13	37	2.37	34
2.31	34	2.36	33	2.55	28	2.38	34
2.24	37	2.26	33	2.19	37	2.31	35
2.24	36	2.32	34	2.33	33	2.35	34

Average of predications per sentence, 40,000 periods, 2.30.
Simple sentences per hundred through the 40,000 periods, thirty-four.

POETRY

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part.	Appos.
Arnold	*Sohrab and Rustum*	1st 100	4.30	15		8	4	0
		2nd	4.61	16		7	3	0
	Balder Dead	1st	3.81	15		16	4	1
		2nd	3.57	15		15	6	0
		3rd	3.96	8		22	9	6
	Average	500	4.05	14	4.70			
Browning	*Ring and the Book*: *Guido*	1st 100	3.49	29		14	8	0
		2nd	3.58	29		6	4	0
		3rd	3.77	17		8	9	1
		4th	3.43	32		9	14	2
		5th	3.12	23		7	10	0
	Average	500	3.48	26	5.03			
	Sordello	1st 100	3.49	19		31	36	2
		2nd	3.71	30		30	16	7
		3rd	3.05	27		19	11	0
		4th	4.38	27		20	20	3
		5th	3.47	22		14	25	3
	Average	500	3.62	25	11.54			
Burns	*Poems*	1st 100	3.95	13		16	24	3
		2nd	3.28	25		15	18	3
		3rd	3.57	15		16	13	0
		4th	3.37	15		9	14	1
		5th	3.28	17		9	6	0
	Average	500	3.49	17	7.53			
Bryon	*Childe Harold*	1st 100	4.32	20		25	8	1
		2nd	5.56	11		31	18	0
		3rd	6.09	12		24	25	3
		4th	4.89	25		20	24	0
		5th	5.16	14		17	22	0
	Average	500	5.20	16	7.76			
Chatterton	*Kew Gardens*	1st 100	3.83	17		11	39	10
		2nd	4.23	14		8	33	5
	Resignation	1st	3.65	14		12	29	6
		2nd	3.13	21		12	16	8
	The Consuliad	1st	3.16	20		30	39	10
	Average	500	3.60	17	.13			
Chaucer	*Canterbury Tales*: *Prologue*	1st 100	2.49	32		1	3	2
		2nd	2.44	31		3	6	0
		3rd	3.05	19		2	2	1
	Knight's Tale	1st	3.56	22		5	6	0
		2nd	3.12	14		5	1	1
	Average	500	2.93	24	2.54			
Coleridge	*Monody on Death of Chat.*	1st 100	2.90	26		31	26	9
	Religious Musings	2nd	2.83	26		29	42	5
	Destiny of Nations	3rd	2.98	19		32	30	2
	Meditative Poems	4th	3.69	17		25	27	5
	The Picture	5th	3.12	20		35	31	9
	Average	500	3.10	22	18.24			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part.	Ap-pos.
Donne	*Funeral Elegies*	1st 100	*9.88	1		13	34	2
	Divine Poems	2nd	6.29	5		6	19	2
	Progress of the Soul	3rd	4.59	7		5	15	1
	Elegies	4th	5.85	4		2	20	1
		5th	4.86	4		9	27	1
	Average	500	6.29	4	4.81			
Dryden	*Hind and Panther*	1st 100	3.06	10		7	15	6
		2nd	2.53	7		21	15	10
		3rd	3.90	13		7	15	0
		4th	4.40	3		9	12	3
		5th	4.03	4		9	14	3
	Average	500	3.58	7	10.05			
Holland	*Kathrina*	1st 100	3.42	15		30	26	4
		2nd	3.34	17		21	15	2
		3rd	3.56	15		20	8	1
		4th	2.75	32		8	7	1
		5th	2.85	24		5	1	1
	Average	500	3.18	21	8.66			
Hood	*Plea of Midsum. Fairies*	1st 100	5.37	10		40	35	7
	Hero and Leander	2nd	4.53	8		45	32	8
	Two Peacocks of B.	3rd	4.26	10		42	25	8
	Bianca's Dream, etc.	4th	4.32	16		54	39	5
		5th	5.61	5		15	18	2
	Average	500	4.82	10	13.68			
Keats	*Endymion*	1st 100	4.13	19		54	22	6
		2nd	3.92	22		36	19	1
		3rd	3.44	25		47	18	3
		4th	3.17	28		28	19	1
		5th	3.23	22		16	11	1
	Average	500	3.58	23	13.21			
Lowell	*Poems*	1st	5.40	9		43	29	1
		2nd	4.86	12		48	11	0
		3rd	6.21	8		88	45	1
		4th	4.45	11		30	21	0
		5th	6.46	14		32	13	0
	Average	500	5.48	11	10.78			
	The Cathedral	1st 100	4.34	14	22.8	57	62	9
	Fable for Critics	189	10.03	5	6.63	88	82	1
Milton	*Paradise Lost*	1st 100	5.78	7		24	42	5
		2nd	5.94	5		18	30	8
		3rd	5.91	5		35	29	6
		4th	5.55	12		26	34	2
		5th	5.24	11		23	26	4
	Average	500	5.68	8	9.89			
	Paradise Regained	1st 100	5.57	5		24	22	0
		2nd	3.94	21		8	18	0
		3rd	4.68	14		21	41	5
		30	6.60	4		4	3	0
	Average	330	4.88	12	10.30			

*One period of 135 predications and 888 words.

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part.	Appos.
Moore	*Lalla Rookh*	1st 100	4.35	17		36	39	0
		2nd	4.37	13		25	3	0
		3rd	4.51	11		19	22	0
		4th	4.36	12		28	26	0
		5th	3.52	8		39	37	0
	Average	500	4.22	10	11.90			
Ossian		1st 100	1.37	70		4	2	8
		2nd	1.29	75		1	2	0
		3rd	1.30	77		3	2	1
		4th	1.53	60		0	3	2
		5th	1.80	40		0	0	1
	Average	500	1.46	64	3.90			
Pope	*Essay on Man*	1st 100	3.61	19		2	18	3
		2nd	4.02	14		6	20	1
		3rd	3.77	14		7	15	2
	Essay on Criticism	4th	4.00	10		2	6	0
		5th	4.06	5		4	21	3
	Average	500	3.89	12	5.30			
Scott	*Lady of the Lake*	1st 100	3.69	16		21	33	0
		2nd	3.59	10		13	10	0
		3rd	3.58	16		17	15	0
		4th	3.45	24		9	10	0
		5th	2.89	20		11	14	0
	Average	500	3.44	17	8.22			
Shakespeare	*Love's Labors Lost*	1st 100	2.97	21		7	12	1
		2nd	2.54	31		6	6	1
		3rd	2.65	29		2	2	0
		4th	2.75	25		4	5	1
		5th	3.02	24		4	10	0
	Average	500	2.79	26	4.08			
	Tempest	1st 100	2.46	30		12	10	0
		2nd	2.84	31		7	3	0
		3rd	2.93	27		9	1	0
		4th	2.53	34		0	1	1
		5th	3.21	20		8	4	0
	Average	500	2.79	28	3.86			
	Sonnets	1st 100	4.36	11		22	29	2
		2nd	4.75	4		20	19	1
		3rd	4.11	9		21	22	0
		4th	4.34	10		16	8	0
		5th	4.56	6		16	11	0
	Average	500	4.42	8	7.66			
	Coriolanus	1st 100	3.77	20		13	6	0
		2nd	4.22	21		11	1	0
	Average	200	3.99	20	6.11			
Shelley	*Alastor*	1st 100	2.66	30		35	24	5
	Julian and Maddalo	2nd	3.03	18		26	19	0
	Queen Mab	3rd	3.28	15		12	7	1
		4th	3.56	19		12	10	0
		5th	3.54	16		27	20	2
	Average	500	3.21	20	11.07			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part	Appos.
Spenser	*Faerie Queene*	1st 100	4.40	6		34	37	5
		2nd	4.81	4		35	20	7
		3rd	5.92	6		32	31	6
		4th	4.59	9		37	17	3
		5th	4.91	5		30	27	1
	Average	500	4.93	6	11.65			
Thomson	*Liberty*	1st 100	2.64	20		23	52	15
		2nd	3.00	22		23	54	3
		3rd	2.79	28		16	38	6
		4th	2.61	27		25	33	2
		5th	2.52	31		29	41	0
	Average	500	2.71	26	20.92			
Very	*Poems*	1st 100	4.40	12		24	16	1
		2nd	3.82	12		20	40	5
		3rd	3.82	11		16	15	1
		4th	4.11	6		15	25	0
		5th	3.91	18		12	16	0
	Average	500	4.01	12	9.31			
Wordsworth	*Excursion*	1st 100	3.91	14		27	38	16
		2nd	4.10	9		20	20	3
		3rd	3.56	9		50	49	7
		4th	3.77	13		31	43	11
		5th	3.97	13		39	63	8
	Average	500	3.86	12	20.27			
	PROSE							
Addison	*Spectator*	1st 100	3.86	10		14	6	0
		2nd	3.95	5		14	5	1
		3rd	3.76	11		6	6	1
		4th	3.49	16		2	3	0
		5th	3.30	16		4	9	0
	Average	500	3.67	12	3.72			
Arnold	*Milton*	1st 100	2.67	24		4	11	1
	Wordsworth	2nd	2.54	22		12	4	1
	Byron	3rd	2.93	15		10	3	0
	Byron	4th	2.82	18		6	3	0
		5th	2.82	20		8	2	0
	Average	500	2.77	20	4.51			
Ascham	*Schoolmaster*	1st 100	3.76	17		20	16	0
		2nd	3.78	15		5	3	0
		3rd	3.30	20		7	4	2
		4th	3.27	15		6	5	0
		5th	3.32	28		16	4	1
	Average	500	3.49	19	4.31			
Bacon	*Essays*	1st 100	3.15	21		8	3	0
		2nd	2.91	21		7	0	0
		3rd	3.02	16		7	3	0
		4th	3.27	22		2	2	0
		5th	3.26	15		9	5	0
	Average	500	3.12	19	2.87			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part.	Appos.
Barrow	*Sermons 16, 17, 18*	1st 100	3.81	18		55	19	6
		2nd	3.37	27		34	15	1
		3rd	4.14	13		57	10	1
		4th	4.13	18		56	5	1
		5th	3.26	24		27	5	1
	Average	500	3.74	20	13.54			
Bartol	*Radical Problems*	1st 100	2.30	37		12	2	1
		2nd	2.52	39		17	5	0
		3rd	2.18	45		4	6	0
		4th	2.43	32		12	3	1
		5th	2.36	36		11	1	0
		6th	2.48	38		15	4	2
		7th	2.09	45		6	8	1
		8th	1.90	54		21	2	2
		9th	1.97	43		14	2	2
		10th	2.08	38		14	5	0
		11th	2.02	42		12	2	1
		12th	1.76	52		9	5	0
		13th	1.79	52		11	11	2
		14th	1.63	57		8	5	0
		15th	2.06	50		16	4	1
	Average	1500	2.10	44	7.60			
	Average last	400	1.81	53	9.04			
Blaine	*Twenty Years of Congress*	1st 100	2.18	38		13	23	2
		2nd	2.38	23		19	8	0
		3rd	2.27	29		12	7	2
		4th	2.41	21		25	19	1
		5th	1.92	35		8	9	0
	Average	500	2.23	29	11.71			
Bolingbroke	*Study of History*	1st 100	3.32	14		5	2	1
		2nd	4.01	12		3	15	2
		3rd	3.82	9		2	4	1
		4th	3.75	15		3	16	2
		5th	3.71	16		1	11	0
		6th	3.78	10		2	13	1
		7th	3.39	13		0	15	1
		8th	4.09	16		0	9	2
		9th	3.41	19		7	8	0
		77	3.34	18		4	7	1
	Average	977	3.65	14	3.72			
Browning (?)	*Life of Strafford*	1st 100	2.17	35		5	13	4
		2nd	3.09	20		10	12	0
		3rd	2.85	25		18	7	0
		4th	3.63	21		12	5	1
		5th	3.03	24		9	15	1
	Average	500	2.91	25	7.14			
Browning	*Introductory Essay*	139	3.12	23	12.80	44	21	0
Bunyan	*Holy War*	1st 100	3.61	12		25	3	1
		2nd	3.69	10		14	2	0
		3rd	3.89	12		21	13	1
		4th	4.10	7		15	11	0
		5th	4.25	11		9	8	0
	Average	500	3.91	10	5.92			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part.	Appos.
Carlyle	*Nibelungen Lied*	1st 100	3.86	9		35	15	1
	Hero Worship	1st 100	2.68	22		13	14	3
	Burns	1st 100	3.51	14		13	14	2
		2nd	2.91	20		5	1	0
		3rd	2.64	23		7	6	0
	Average	500	3.12	18	7.08			
Channing	*Life and Char. of Nap.*	1st 100	2.61	33		3	12	3
		2nd	2.70	27		7	13	1
		3rd	2.61	25		8	10	2
		4th	2.49	32		11	4	1
		5th	2.37	39		3	4	0
		6th	2.70	32		1	8	1
		7th	2.40	32		9	5	0
		8th	2.78	29		11	8	1
		9th	2.42	33		8	13	1
		10th	2.75	26		14	2	0
	Average	1000	2.58	31	5.93			
Channing	*Duty of Free States*	1st 100	2.23	41		11	11	0
		2nd	2.00	44		5	7	4
		3rd	2.18	37		11	11	0
		4th	2.11	40		5	4	0
		5th	2.20	37		13	0	0
	Average	500	2.14	40	7.05			
	Self-Culture	1st 100	2.59	28		4	6	0
		2nd	2.60	30		8	11	3
		3rd	2.55	26		9	5	0
		4th	2.54	37		3	9	2
		5th	2.55	35		10	6	1
		6th	2.46	28		5	11	1
		7th	2.47	31		8	12	1
		37	2.06	30		0	3	2
	Average	737	2.51	31	5.94			
	Lenox Address	1st 100	2.06	42		5	9	2
		2nd	2.04	44		4	6	1
		3rd	2.16	42		7	11	1
		4th	2.07	47		7	11	1
		5th	1.86	47		9	5	0
	Average	500	2.04	44	7.36			
Channing	*Char. and Writ. of Milton*	1st 100	2.73	31		5	10	0
		2nd	2.51	36		12	17	2
		3rd	2.31	35		9	12	0
		4th	2.63	31		2	5	0
		5th	3.26	16		12	5	0
	Average	500	2.69	30	7.20			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part	Appos.
Chaucer	*Melibeus*	1st 100	6.16	4		1	3	1
		2nd	5.25	6		0	2	1
		3rd	4.68	6		3	2	0
		4th	4.66	2		2	0	0
		80	5.50	3		10	3	0
	Average	480	5.25	4	.98			
	Person's Tale	1st 100	4.78	8		1	0	0
		2nd	5.40	2		0	1	0
		3rd	3.96	8		2	5	0
		4th	3.61	14		1	1	0
		5th	3.61	10		0	0	0
		6th	4.11	11		1	0	0
		7th	3.87	6		0	0	0
		8th	4.03	10		0	0	0
		26	2.97	1		0	0	0
	Average	826	4.17	8	.34			
Choate	*Addresses and Orations*	1st	2.56	30		11	14	0
		2nd	2.72	36		7	4	0
		3rd	2.81	27		10	2	0
		4th	3.68	25		9	10	1
		5th	2.61	30		18	16	3
	Average	500	2.88	30	7.48			
Coleridge	*Poet., Drama, Shakesp.*	1st 100	3.18	24		30	28	0
		2nd	3.59	22		27	25	2
		3rd	3.16	18		24	24	6
	Lecture I	1st 100	3.49	13		20	12	1
		2nd	3.23	18		3	6	0
	Average	500	3.33	19	11.10			
Darwin	*Descent of Man*	1st 100	2.73	21		19	15	2
		2nd	2.65	23		17	21	1
		3rd	2.73	21		16	10	0
		4th	2.47	26		18	22	0
		5th	2.60	16		11	12	1
	Average	500	2.64	21	11.15			
DeQuincey	*Opium Eater*	1st 100	3.61	10		16	7	0
		2nd	3.70	19		13	16	1
		3rd	3.38	15		4	10	0
		4th	4.31	7		5	17	0
		5th	3.45	21		8	19	0
	Average	500	3.69	14	5.49			
	Rhetoric	1st 100	2.75	19	6.14	6	12	0
	Autobiographical Sketches	1st 100	3.03	20	9.60	21	7	2
		2nd	2.44	27	14.98	33	8	2
Disraeli	*Curiosities of Literature*	1st 100	2.78	28		14	15	1
		2nd	2.41	34		13	15	0
		3rd	2.60	29		1	19	1
		4th	2.47	20		9	5	1
		5th	2.61	22		5	3	0
	Average	500	2.57	27	7.34			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part.	Appos.
Dryden	*Dramatic Poesy*	1st 100	6.14	4		38	2	1
		2nd	5.86	1		19	11	2
		3rd	4.73	8		13	10	1
		4th	3.79	8		7	10	2
		5th	4.04	9		10	7	0
		21	4.33	0		4	0	0
	Average	521	4.89	6	4.88			
Emerson	*History*	1st 100	2.45	37		2	5	0
		2nd	2.19	35		4	11	2
		3rd	2.36	40		6	3	1
		65	2.08	40		2	2	0
	Average	365	2.28	38	4.35			
	Friendship	1st 100	2.17	37		1	3	0
		2nd	2.13	36		2	6	0
		3rd- 6	2.12	41		1	0	1
	Average	306	2.14	38	1.94			
	Over-Soul	1st 100	2.75	31		5	2	0
		2nd	2.38	42		5	1	0
		3rd	2.32	37		4	1	0
		29	2.55	28		1	1	0
	Average	329	2.49	36	2.38			
	Circles	1st 100	2.12	42		4	10	0
		2nd	2.55	35		1	3	0
		38	2.10	47		1	0	0
	Average	238	2.29	40	3.36			
	Divinity Address	1st 100	2.14	41	6.55	6	2	7
	Beauty	1st 100	2.02	40	4.71	4	3	3
Everett	*Poetry, Comedy and Duty*	1st 100	2.94	22		7	8	1
		2nd	2.21	39		6	2	1
		3rd	2.07	40		7	1	0
		4th	2.41	28		4	3	1
		5th	2.31	33		0	2	1
		6th	1.96	40		4	3	4
		7th	2.12	34		6	4	0
		8th	2.30	31		4	2	1
		9th	2.11	30		0	0	1
		10th	2.32	30		1	2	2
	Average	1000	2.27	32	3.31			
Fiske	*The Idea of God*	1st 100	2.89	12		8	11	0
		2nd	2.70	19		5	6	1
		3rd	2.71	23		7	14	0
		4th	2.41	21		10	10	1
		5th	2.76	23		3	7	0
	Average	500	2.69	20	5.87			
Forum	March, 1893	1st 100	2.94	22		28	27	2
		2nd	2.37	26		17	14	0
		3rd	2.33	33		18	16	1
		4th	2.49	37		25	18	0
		5th	1.95	43		13	11	0
	Average	500	2.42	32	13.59			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part	Appos.
Franklin	*Autobiography*	1st 100	2.81	25		18	13	5
		2nd	2.80	20		16	11	1
		3rd	3.31	15		28	12	0
		4th	3.11	19		28	8	1
		5th	3.17	16		23	11	0
	Average	500	3.04	19	10.27			
Geikie	*Life of Christ*	1st 100	2.56	28		20	20	0
		2nd	2.18	37		9	8	0
		3rd	2.09	38		13	18	0
		4th	2.43	28		12	13	0
		5th	2.42	30		16	12	1
	Average	500	2.34	32	10.84			
George	*Progress and Poverty*	1st 100	3.44	17		17	15	0
		2nd	3.16	26		5	12	0
	The Land Question	1st	2.83	21		6	12	1
		2nd	2.54	30		11	7	0
		3rd	2.61	23		4	4	0
	Average	500	2.92	23	6.19			
Gladstone	*The Might of Right*	1st 100	3.64	15		16	13	0
		2nd	3.47	18		7	13	1
		3rd	3.53	14		14	10	0
		4th	3.20	15		10	8	0
		5th	3.33	16		3	6	1
	Average	500	3.43	16	5.60			
Goldsmith	*The Bee*	1st 100	2.74	14		12	4	0
	Citizen of the World	1st 100	2.97	22		5	4	0
		2nd	2.88	21		19	20	1
		3rd	2.74	22		12	7	3
		4th	3.41	13		13	10	2
	Average	500	2.95	18	6.35			
Grant	*Memoirs*	1st 100	2.30	36		10	5	4
		2nd	2.40	33		8	4	1
		3rd	2.30	35		13	11	2
		4th	2.44	25		15	7	0
		5th	2.28	28		15	18	2
	Average	500	2.34	31	8.93			
Greeley	*American Conflict*	1st 100	2.18	44		22	20	1
		2nd	2.55	26		18	21	0
		3rd	2.87	22		32	29	1
		4th	2.55	20		26	26	1
		5th	2.65	20		36	18	0
	Average	500	2.56	26	17.04			
Hakluyt	*Voyages*	1st 100	5.43	4		96	28	2
		2nd	3.90	9		53	30	0
		3rd	4.00	13		53	19	0
		4th	3.68	14		65	26	1
		5th	4.20	20		59	27	0
	Average	500	4.22	12	17.54			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part	Appos.
Hamerton	*Intellectual Life*	1st 100	3.04	16		8	3	1
		2nd	3.04	8		4	0	3
	Painter's Camp	1st 100	3.21	16		18	19	3
		2nd	2.42	31		8	6	0
		3rd	2.53	28		6	9	0
	Average	500	2.85	20	5.87			
Higginson	*Women and Men*	1st 100	2.60	18		20	11	0
		2nd	2.61	25		10	6	0
		3rd	2.81	27		7	13	0
		4th	2.89	19		3	6	0
		5th	3.34	18		10	10	0
	Average	500	2.85	21	6.31			
Holland	*Plain Talks*	1st 100	2.99	25		1	11	2
		2nd	3.51	13		5	7	0
		3rd	3.23	23		10	7	0
		4th	2.64	24		1	4	0
		5th	2.78	19		5	7	0
	Average	500	3.03	21	3.76			
Hooker	*Ecclesiastical Polity*	1st 100	4.36	13		36	3	0
		2nd	4.11	11		24	7	0
		3rd	4.41	8		27	19	0
		4th	4.03	10		32	10	0
		5th	3.68	17		24	15	0
	Average	500	4.12	12	8.73			
Howells	*Criticism and Fiction*	1st 100	3.95	6		5	12	1
		2nd	3.72	13		3	7	1
		3rd	3.52	12		15	2	0
		4th	4.30	11		10	9	0
		5th	3.20	15		19	10	0
	Average	500	3.74	11	4.89			
Hume	*History of England*	1st	3.39	10		32	41	5
		2nd	3.10	9		22	32	1
		3rd	3.06	13		12	27	1
		4th	2.78	16		22	22	1
		5th	3.12	11		24	27	3
	Average	500	3.29	12	14.71			
Huxley	*Some Controverted Questions*	1st	3.26	16		10	16	1
		2nd	3.41	13		8	17	1
		3rd	3.00	19		6	13	0
		4th	3.73	16		7	19	1
		5th	3.41	18		9	23	0
	Average	500	3.36	16	7.22			
James	*French Poets and Novelists*	1st 100	2.68	23		5	11	0
		2nd	2.49	22		6	8	0
		3rd	2.60	20		5	11	0
		4th	2.28	31		10	10	2
		5th	2.21	25		7	10	0
	Average	500	2.45	24	5.76			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part	Appos.
Johnson	*Lives of Poets: Milton*	1st 100	3.34	7		11	8	1
		2nd	3.46	16		15	20	1
		3rd	3.29	17		15	21	0
		4th	3.19	20		16	13	1
		5th	2.89	20		6	12	0
	Average	500	3.23	16	7.09			
Junius	*Letters*	1st 100	2.31	30		2	10	4
		2nd	2.60	25		5	10	0
		3rd	2.59	24		14	17	0
		4th	2.48	29		6	4	0
		5th	2.74	20		6	5	0
	Average	500	2.54	26	6.13			
Latimer	*Sermons*	1st 100	4.99	12		11	4	0
		2nd	4.87	15		6	2	0
		3rd	4.88	9		6	1	0
		4th	4.87	10		21	0	1
		5th	4.02	17		12	4	0
	Average	500	4.75	13	2.78			
Lowell	*Lessing*	1st 100	2.84	21		7	7	10
		2nd	2.29	30		17	3	3
		3rd	2.54	14		6	3	0
		4th	2.54	22		4	4	1
		5th	2.40	29		5	7	1
		6th	2.36	27		3	1	1
		83	2.83	14		2	2	0
	Average	683	2.54	23	4.76			
	Shakespeare Once More	1st 100	3.64	10		9	13	4
		2nd	2.99	21		13	6	0
		32	3.47	12		8	0	0
	Average	232	3.33	15	5.65			
	Average	915	2.74	21	5.29			
Luke	*Gospel*	1st 100	3.28	13		31	9	1
		2nd	3.69	10		26	7	0
		3rd	3.67	11		18	5	0
		4th	3.62	6		29	3	0
		5th	3.82	8		16	3	0
	Average	500	3.62	10	7.52			
Lyly	*Euphues*	1st 100	3.37	26		36	11	12
		2nd	3.61	14		36	15	0
		3rd	3.23	20		15	10	0
		4th	3.42	15		25	8	0
		5th	3.86	8		20	7	4
	Average	500	3.50	17	10.21			
Macaulay	*Madam D'Arblay*	1st 100	2.35	31		2	7	4
		2nd	2.40	28		5	7	2
		3rd	2.02	41		5	11	2
		4th	2.25	39		3	11	4
		5th	2.04	27		2	6	2
		6th	2.56	20		0	5	0
		7th	2.13	35		2	3	1
		8th	2.35	32		1	4	0
		9th	2.16	34		9	4	0
		18	2.22	12		3	1	0
	Average	918	2.31	32	4.74			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part.	Appos.
Macaulay	*Life and W. of Addison*	1st 100	2.57	19		0	10	1
		2nd	2.30	28		3	4	0
		3rd	2.29	29		7	7	2
		4th	2.23	33		5	10	0
		5th	2.10	40		9	8	0
		6th	2.40	26		4	5	5
		7th	1.96	43		7	3	3
		8th	2.13	37		6	6	2
		9th	2.12	40		3	6	1
		10th	2.30	27		1	3	1
		11th	2.08	40		0	2	1
		12th	2.16	25		0	2	2
		13th	2.25	28		2	2	3
		31	2.19	41		2	5	0
	Average	1331	2.22	32	4.61			
	Milton	1st 100	2.11	38		2	9	2
		2nd	1.93	37		0	3	0
		3rd	2.17	27		6	3	1
		4th	1.62	51		6	4	1
		5th	2.19	40		3	5	1
		6th	2.00	40		7	7	0
		7th	2.46	32		1	2	1
		8th	2.12	41		7	4	1
		95	2.10	40		2	3	0
	Average	895	2.07	38	4.21			
	History	1st 100	2.06	40		3	8	0
		2nd	2.23	40		1	4	0
		3rd	2.38	33		3	5	2
		4th	2.20	35		2	10	1
		5th	1.88	46		2	3	1
		6th	2.44	45		3	12	3
		7th	2.07	38		8	6	1
		19	2.31	42		0	2	0
	Average	719	2.18	40	4.40			
	Francis Atterbury	1st 100	2.49	32		2	12	5
		2nd	2.30	39		2	5	2
	John Bunyan	3rd	2.62	24		2	6	2
		4th	2.45	31		0	4	3
	Oliver Goldsmith	5th	2.17	36		5	4	1
	Average	500	2.41	32	4.34			
	Machiavelli	1st 100	1.89	37		3	10	0
		2nd	1.71	52		10	9	1
		3rd	1.90	53		2	14	3
		4th	1.99	50		2	5	3
		5th	2.02	49		3	13	2
		6th	1.75	51		2	4	2
		93	2.25	39		3	11	3
	Average	693	1.88	48	7.42			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past. part	Appos.
	John Dryden	1st 100	2.65	29	5.69	11	2	3
	Royal Soc. of Literature	1st 100	2.03	44	2.40	1	3	1
	Criticism, Dante	1st 100	2.15	38	5.29	1	6	5
	Average	2500	2.26	32	4.55			
	Average	1st 500	2.32	34	4.85			
	Average	2nd	2.32	32	4.77			
	Average	3rd	2.33	28	4.27			
	Average	4th	2.16	36	6.34			
	Average	5th	2.18	32	2.58			
	Average	5604	2.17	36	5.06			
Mandeville	*Voyages and Travels*	1st 100	3.97	15		2	2	0
		2nd	3.05	22		0	1	0
		3rd	2.72	32		0	0	0
		4th	2.69	20		0	0	0
		5th	2.97	20		0	0	0
	Average	500	3.08	22	.30			
Milton	*Areopagitica*	1st 100	5.15	4		31	16	0
		2nd	4.82	4		18	12	0
		3rd	5.13	5		42	18	0
		4th	5.25	5		36	27	2
		5th	4.00	11		31	15	0
	Average	500	4.87	6	9.31			
Moore	*Life of Byron*	1st 100	3.11	17		12	17	0
		2nd	3.28	10		24	25	0
		3rd	3.55	11		20	11	1
		4th	3.61	5		21	16	0
		5th	3.37	11		29	19	0
	Average	500	3.38	11	10.33			
More	*History of Richard III*	1st 100	4.02	12		36	16	5
		2nd	3.72	9		31	13	0
		3rd	3.30	19		7	5	0
		4th	3.51	15		24	6	1
		5th	3.70	18		21	3	1
	Average	500	3.65	15	8.39			
Munger	*Appeal to Life*	1st 100	4.03	13		16	10	0
		2nd	2.67	33		8	12	1
		3rd	2.92	27		6	11	0
		4th	2.74	29		11	11	0
		5th	2.30	26		10	4	0
	Average	500	2.93	26	6.32			
Newman	*Apologia*	1st 100	3.46	13		15	10	0
		2nd	2.94	15		4	7	0
		3rd	3.01	20		10	7	1
		4th	2.64	21		4	6	0
		5th	2.80	13		4	2	0
	Average	500	2.97	16	4.50			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part.	Appos.
	Idea of a University	1st 100	4.65	8	3.32	10	6	0
	Discourse VIII	2nd	4.09	9	4.21	13	5	0
Pater	*Appreciations*	1st 100	2.96	23		44	11	4
		2nd	2.99	29		27	16	0
		3rd	3.02	17		32	12	1
		4th	2.14	37		15	14	1
		5th	2.58	25		24	18	0
	Average	500	2.74	26	13.74			
Phelps	*My Study*	1st 100	2.01	38		4	3	0
		2nd	1.69	55		3	4	0
		3rd	1.71	56		7	8	0
		4th	2.16	37		1	8	0
		5th	1.57	66		5	7	0
	Average	500	2.03	50	5.58			
Phillips	*War for the Union*	1st 100	2.30	28		5	10	0
		2nd	2.71	28		14	12	1
		3rd	2.36	35		7	7	0
		4th	2.43	40		10	6	1
	The Cabinet	5th	2.56	32		12	4	0
	Average	500	2.47	33	6.85			
Ruskin	*Queens' Gardens*	1st 100	3.11	21		9	15	2
		2nd	3.71	15		7	9	1
		84	3.70	19		12	17	0
	Average	284	3.51	18	6.87			
	Kings' Treasuries	1st 100	3.45	19		8	11	3
		2nd	3.24	20		9	4	1
		3rd	3.30	21		17	6	0
		4th	3.73	24		25	7	1
		34	4.06	9		7	7	1
	Average	434	3.50	18	6.51			
Scott	*Life of Napoleon*	1st 100	3.13	21		13	50	10
		2nd	3.30	11		16	26	1
		3rd	3.69	10		20	16	1
		4th	3.50	17		19	20	5
		5th	3.19	20		32	24	0
	Average	500	3.36	16	13.03			
Shaftsbury	*Enthusiasm*	1st 100	2.50	23	2.12	3	2	0
	Advice to an Author	1st 100	2.46	25	3.20	8	1	0
	Freedom of Wit and Humor	1st 100	2.46	29		4	7	0
		2nd	2.53	25		3	2	0
		3rd	2.94	26		2	4	0
		4th	2.58	27		2	8	1
		5th	2.48	30		4	5	0
		6th	2.58	32		4	17	2
		50	2.72	30		2	4	0
	Average	650	2.61	28	4.02			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part	Appos.
Shakespeare	*W. Tale* (Prose lines)	1st 100	2.70	27		8	4	8
		2nd	2.56	40		1	3	2
		3rd	2.77	27		5	5	7
	Cymbeline	4th	2.83	30		6	3	0
	Hamlet	5th	2.93	30		6	1	5
	Average	500	2.76	31	4.46			
Shelley	*Essay on Christianity*	1st 100	2.65	26		20	11	0
		2nd	2.44	28		14	8	2
		3rd	2.35	26		4	7	0
		35	2.51	23		4	5	0
	Average	335	2.48	26	8.27			
Sidney	*Defense of Poesy*	1st 100	3.74	10		17	21	2
		2nd	4.35	10		29	19	1
		3rd	4.58	6		31	17	0
		4th	3.43	13		21	14	0
		73	3.79	13		5	15	0
	Average	473	3.98	10	9.27			
Spenser	*View of State of Ireland*	1st 100	4.83	12		23	29	0
		2nd	4.67	13		25	18	0
		3rd	4.86	11		26	8	3
		4th	4.55	10		36	14	1
		5th	4.49	7		19	19	0
		6th	5.07	10		15	17	0
		7th	5.73	5		12	9	0
		8th	6.47	4		17	15	0
		9th	5.99	7		26	9	0
		10th	7.00	2		35	20	0
		69	6.58	7		18	8	0
	Average	1069	5.44	8	6.74			
Steele	*Spectator*	1st 100	3.34	17		16	1	0
		2nd	4.05	11		14	2	0
	The Lover	1st 100	4.90	4		21	9	0
		2nd	3.88	11		11	12	0
		3rd	3.95	7		15	7	0
	Average	500	4.02	10	5.09			
Stevenson	*Memories and Portraits*	1st 100	2.31	36		15	16	5
		2nd	3.10	21		18	6	0
		3rd	2.91	22		29	10	1
		4th	3.48	18		14	5	0
		5th	3.23	22		17	3	0
	Average	500	3.01	24	8.41			
Swift	*Contests in Athens*	1st 100	3.91	7		25	18	1
	Examiner	1st 100	4.58	10		17	3	1
	Tale of a Tub	1st 100	3.35	16		31	25	2
		2nd	3.02	19		11	13	0
		3rd	3.61	14		19	21	0
	Average	500	3.69	13	9.23			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part	Appos.
Symonds	*The Greek Poets*	1st 100	2.18	52		14	10	0
		2nd	1.76	55		16	9	0
		3rd	1.59	65		2	12	0
		4th	1.99	48		8	9	0
		5th	1.66	58		8	13	1
	Average	500	1.84	58	10.00			
Thoreau	*Walden*	1st 100	2.72	33		30	9	0
		2nd	2.79	29		18	6	0
		3rd	2.85	21		13	5	0
		4th	3.14	19		7	11	0
		5th	2.80	24		24	12	0
	Average	500	2.86	25	8.62			
Very	*Essays*	1st 100	3.30	11		30	14	1
		2nd	3.41	9		22	21	1
		3rd	4.25	13		27	16	0
		4th	3.82	13		13	9	0
		5th	3.59	7		8	9	0
	Average	500	3.67	11	8.55			
White	*Natural History of Selborne*	1st 100	2.99	19		26	28	2
		2nd	3.10	15		36	22	0
		3rd	2.86	11		25	7	1
		4th	2.82	23		24	8	0
		5th	3.88	5		18	12	0
	Average	500	3.15	15	11.88			
Wordsworth	*Essays, Letters, Notes*	1st 100	4.50	20		22	23	0
		2nd	4.50	13		24	31	0
		3rd	3.93	12		24	24	0
		4th	3.19	21		20	15	0
		5th	3.30	19		21	35	3
	Average	500	3.87	17	11.35			
	FOREIGN							
Cicero	*De Senectute*	1st 100	3.35	21		19	5	4
		2nd	3.31	18		13	3	0
		3rd	2.93	26		13	2	0
		70	3.47	16		13	1	0
	Average	370	3.22	21	5.77			
Dante	*Inferno*	1st 100	3.73	9		10	1	2
		2nd	3.71	1		17	3	0
		3rd	3.67	5		18	0	0
	Average	300	3.70	5	4.38			
Manzoni	*I Promessi Sposi*	1st 100	3.84	13		15	4	0
		2nd	3.87	4		3	3	0
	Average	200	3.85	9	3.14			

Author	Work	Number periods	Av. pred.	Sim. sent.	Clauses saved	Pr. part.	Past part	Appos.
Vergil *Aeneid*		1st	3.43	16		46	16	2
		2nd	3.06	19		22	19	2
		27	3.22	0		7	4	2
	Average Book I	227	3.24	14	14.16			
Herodotus *Erato VI*		1st 100	2.67	31			142	1
		2nd	2.57	31			142	1
	VII	3rd	2.69	30			141	2
		4th	2.82	28			182	0
		5th	2.39	28			125	0
	Average	500	2.63	30	47.01			
Homer *Iliad*		1st 100	3.22	13			72	8
		2nd	3.13	14			83	2
		3rd	2.93	18			71	6
		4th	2.93	16			94	6
		5th	2.98	13			63	5
	Average	500	3.02	15	21.16			

III.—*Mirabeau an Opponent of Absolutism.*

By FRED MORROW FLING.

One of Mirabeau's more striking characteristics was the supreme confidence that he ever displayed in the justice of universal history.[1] Without any misgivings he submitted his work to the judgment of posterity. His confidence was not misplaced, for to-day he is universally recognized as the master mind of the National Assembly and incomparably the ablest man that the first period of the French Revolution produced.[2]

But it has not taken the civilized world a century to discover that Mirabeau was great. It was convinced of that at the time of his death when the French people honored him as it had never honored its kings.[3] It has, however, taken thoughtful minds several generations to discover just wherein his greatness consisted and to produce an approximately true likeness of this strangest of mortals.[4] Nor can it be said that this task

[1] "Mirabeau aimait la gloire; il savait qu'il l'obtiendrait un jour. 'Souvenez-vous,' écrivait-il quelques heures avant sa mort, 'que la seule dédicace qui nous soit venue de l'antiquité, celle d'Eschyle, ne porte que ces mots: *Au Temps.* Eh bien, cette dédicace est la devise de quiconque aime sincèrement et avant tout la gloire. *Au Temps.* Ils auront beau faire, je serai moissonné jeune et bientôt, ou le *Temps* répondra pour moi, car j'écris et j'écrirai pour le *Temps* et non pour les partis'." Reynald, H.: Mirabeau et la constituante, p. 385.

"Patience encore une fois! le temps fera justice à tous." Reynald, p. 96.

[2] "Nul, à son époque, n'a possédé au même degré les qualités de l'orateur et de l'homme d'Etat." Reynald, p. 382.

"Mais quel homme que celui-là, combien supérieur à tous les autres! Comme il domine de haut ceux qui lui ont succédé! Pour trouver son égal, il faut aller jusqu'à Bonaparte." Mézières, A.: Vie de Mirabeau, p. 325.

[3] "The funeral of Mirabeau (attended, it is said, by more than one hundred thousand persons, in solemn silence) has been an imposing spectacle." The Diary and Letters of Gouverneur Morris, N. Y., 1888, I. 398.

[4] "Endlich bleibt für immer das psychologische Problem bestehen, wie sich so viel Monstrosität des Menschlichen mit so viel politischem Genius verbinden konnte." Stern, A.: Das Leben Mirabeaus, I. p. VIII.

is finished[5] although it has been performed in an admirable manner for French and German readers.[1] For the English speaking people the work is yet to be done, and a brief survey of the scholarly and brilliant productions of French and German writers who within the last decade have treated some phase of Mirabeau's life, will make apparent how great a gap exists in our own historical literature.

I have confined the survey to the last decade, for ten years ago there did not exist, even in France, a satisfactory biography of the great French orator. In making this statement, I do not overlook the fact that as early as 1870 Reynald had written his attractive sketch upon "Mirabeau et la constituante." But it was only a sketch and although composed in the most sympathetic and yet judicial spirit, it lacks detail and emphasizes but one period of Mirabeau's life.

As early as 1849, over twenty years before Reynald's work was published, there began to appear in Parisian journals articles upon Mirabeau from the pen of a certain Louis de Loménie. The young man had made the acquaintance of Lucas Montigny, Mirabeau's adopted son, and a warm attachment was the result. As a mark of his friendship for the young writer Montigny placed in his hands unpublished material relating to the life of Mirabeau. This formed the basis of the articles mentioned and was the beginning of a life-long study of the Mira-

[5] "Cent ans après les funérailles triomphales que ses contemporains lui ont faites, cette question demeure encore incertaine. Chargée, à poids égal, de louanges et d'outrages, cette mémoire flottante n'a pas encore trouvé son équilibre et pris son aplomb." Rousse, E.: Mirabeau, p. 218.

[1] Reynald, H.: Mirabeau et la constituante, Paris, 1872.
De Loménie, L.: Les Mirabeau, 5 vols., Paris, 1879-1891.
Stern, A.: Das Leben Mirabeaus, 2 vols., Berlin, 1889.
Rousse, E.: Mirabeau, Paris, 1891.
Mézières, A.: Vie de Mirabeau, Paris, 1892.
Decrue, F.: Les idées politiques de Mirabeau. Revue historique, 1883.
Gradnauer, G.: Mirabeaus Gedanken über die Erneuerung des französischen Staatswesens, Halle, 1889.

beau family. But Louis de Loménie did not live to complete his work. It was taken up by his wife and by his son Charles de Loménie, finished and published in five large volumes. The last three, dealing with Mirabeau himself, appeared in 1889-91.[1] The value of this work can be estimated best by one who has tilled the same field, and thus possessing a knowledge of the wealth of information upon which the work is based, is in a position to judge of the justness of the conclusions drawn from it. Such a one is Professor Stern of Zurich, a man who has done for Germany what the Loménies did for France. He declares that the work of the French historians has given "the mightiest impulse toward a revision of the conception hitherto held of Mirabeau's life."[2] Mézières, who dedicates his "Vie de Mirabeau" to the elder Loménie, writes of him in the most enthusiastic terms and designates his work as définitive.[3] Nor is this praise undeserved. Louis de Loménie was a striking proof of the fact that the French historian no longer sits at the feet of the German scholar. Loménie's chapter on the origin of the Mirabeau family[4]—to cite but one example—is a matchless bit of judicial criticism and lucid presentation. The five

[1] "Grâce à MM. de Loménie, cette orageuse biographie n'a plus pour personne aucun secret; quiconque désormais parlera de Mirabeau, devra chercher dans ces travaux précieux sa route et son guide." Rousse, p. 6.

[2] "Den mächtigsten Anstoss zu einer Revision der bisherigen Gesamtanschauung von Mirabeau's Leben hat aber die unschätzbare Arbeit des verstorbenen Akademikers Louis de Loménie gegeben, welche nach seinen hinterlassenen Papieren von seinem Sohne Charles de Loménie in würdigster Weise fortgesetzt wird." Stern, I. p. 5.

[3] "Je dédie ce livre à la mémoire de mon excellent ami et confrère, M. Louis de Loménie. J'ai été le témoin, quelquefois le confident de ses travaux. Personne ne poussait plus loin que lui les scrupules de l'historien et le souci de la vérité. La sûreté de ses informations donne à ses études sur Beaumarchais et sur les Mirabeau un prix inestimable. On peut considérer ce qu'il a écrit sur ces deux sujets comme une œuvre définitive." Mézières, p. 5.

[4] Volume I. Chapter 2.

volumes, containing a large number of hitherto unpublished documents, are a vast storehouse of information.

The two small volumes of the Zurich professor cut but a sorry figure by the side of the ponderous tomes of his French contemporaries. But if his work be inferior in quantity it certainly is not in quality. For, possessing resources that even the Loménies did not command, he saw and presented some points more clearly than they are presented in the work of the French historians. If the young student of history would see the German critical spirit at its best, let him study Stern's "Das Leben Mirabeaus."

These are the great biographies of Mirabeau. There are in addition to these several valuable short works: two excellent biographies for the general reader by Rousse and Mézières; an able paper by Gradnauer on "Mirabeau's Gedanken über die Erneuerung des französischen Staatswesens," and a series of exceedingly valuable papers by Decrue with the title "Les idées politiques de Mirabeau." The last mentioned articles contain some excellent bibliographical notes and make a good introduction to the work of the French statesman.

In English there is practically no life of Mirabeau. Little has been written about him and that little is now out of date. Carlyle's work[1] was done before the publication of the "Correspondence entre le Comte de Mirabeau et le Comte de la Marck."[2] It assumed also the perfect reliability of the "Mémoires de Mirabeau,"[3] an idea of which Louis de Loménie has disabused us. Stephens, in the first volume of his "History

[1] History of the French Revolution and essay upon Mirabeau.

[2] Correspondance entre le Comte de Mirabeau et le Comte de La Marck pendant les années 1789, 1790 et 1791, recueillie, mise en ordre et publiée par M. Ad. de Bacourt, ancien ambassadeur de France près la cour de Sardaigne. Paris, Veuve Le Normant, 1851, 3 vols.

[3] Mémoires biographiques, littéraires et politiques de Mirabeau, écrits par lui-même, par son père, son oncle et son fils adoptif. Paris, 1834–1835, 8 vols.

of the French Revolution,"[1] has much to say about Mirabeau, but he is too much of a hero worshipper to give us a true likeness of the man. The picture is one-sided, too highly colored and frequently incorrect. As it deals only with the last two years of Mirabeau's life, it is necessarily incomplete.

But it was not alone the lack of a satisfactory biography of Mirabeau in English that led me to turn my attention to the subject. Six years ago when I began my work, Stern's life of Mirabeau had not appeared, nor the last three volumes by the Loménies. French readers were then but a little better off than English readers are to-day. Since that time the gap has been filled. There remain, however, many points demanding fuller treatment; many interesting questions concerning the life of Mirabeau that still remain to be considered. Some of these I have endeavored to answer. My monograph on "Mirabeau and the French Constitution,"[2] was an attempt to show not only what Mirabeau's political views were in 1789 but to what extent they had influenced the work of the Assembly during its first year. The paper entitled "Mirabeau's Speech of May 20, 1790"[3] was not written solely to make clear the outcome of the great debate on the right to make war and declare peace, but to bring out in its proper light one side of Mirabeau's character, and that side not the brightest. That episode proved conclusively that his political ethics were no better than his private morality. The study that I now offer endeavors to elucidate another critical point in Mirabeau's life.

There is a very interesting difference between the attitude of Mirabeau toward the French government in 1780 and his atti-

[1] Stephens, H. Morse: The French Revolution, New York, 1886–1891, 2 vols.

[2] Fling, F. M.: Mirabeau and the French Constitution in the years 1789 and 1790, Ithaca, 1891.

[3] Fling, F. M.: Mirabeau's Speech on May 20, 1790, Papers of the American Historical Association, Volume V, parts 1–2.

tude toward that government in 1789. In 1780 he was an opponent of absolutism and an advocate of a government based upon law as opposed to "no government," by which title he designated absolutism. In 1789 this question was settled and there was no longer need of emphasizing it. Mirabeau now concerned himself more especially with the form of government to be established and advocated a constitutional monarchy. This difference—a very important one it would seem—the existing biographies do not bring out. With all of them 1789 is the objective point, and all else tributary to it. Gradnauer and Decrue treat of Mirabeau's political views in their ultimate form but concern themselves little with their evolution. The latter announces the subject of my paper when he declares that Mirabeau "saw in the judicial reform the principal end of the revolution,"[1] but he does not stay to develop the thought. If Decrue has stated the case correctly, and I believe that he has, a thorough understanding of Mirabeau's work in the Assembly can be attained only when we comprehend the significance of that expression "judicial reform," and appreciate just what Mirabeau understood by it. Nowhere can this point be better studied than in his writings during the five years from 1775 to 1780. There the idea appears fully developed and unencumbered by any side issues. But before treating it in detail, it will be necessary to examine Mirabeau's life previous to 1780 and to note how naturally the ideas with which we are to deal took shape under the influence of inherited tendencies and surrounding conditions.

If a small part of the particulars that we learn from Mirabeau concerning his ancestors be true,[2] they were indeed a remark-

[1] "Il voit dans la réforme judiciaire le but principal de la Révolution." Revue historique, XXII, 340.

[2] The first volume of Montigny's work contains a mémoire—ostensibly by Mirabeau—in which these particulars are recited. The mémoire is really the work of the Marquis and was copied by Mirabeau, who made some slight changes. Mirabeau claimed the work as his own and it was published as such by Montigny. Louis de Loménie discovered the original and exposed the fraud.

able race of men. Passionate, impetuous in word and deed, independent in the extreme, they possessed all the qualities that have rendered notorious the most famous of their descendents. Of all Mirabeau's ancestors, his grandfather was by far the most eccentric. Although a soldier and every way fitted for a high position in the army, he never attained it on account of his innate dislike of the methods by which alone advancement was possible in the latter days of Louis XIV. Abandoned as dead upon the battle field of Cassano, he recovered, was "patched together," married a beautiful heiress of southern France, and became the father of seven children. Three of them, all boys, outlived him. The eldest was Mirabeau's father. He entered the army at an early age, led a wild life and spent money with such a lavish hand that he was soon at the end of his resources. Fortunately for him the death of his father put an end to his financial difficulties. It would appear to be but natural for one who had been so great a sinner himself to be lenient toward others. Such was not the case. He was most intolerant of those very things in his son wherein he himself had been most remiss.

The Marquis de Mirabeau—for such was the title of Mirabeau's father—had a cherished idea that wrecked his own happiness and that of his family as well. The Mirabeau family was of probably plebeian origin but had secured a place among the nobility of the Provence by industry, wealth, and shrewdness. The Marquis de Mirabeau aspired to still higher things. He wished to win for himself a position among the greater nobility of the nation. This he proposed to do, not through the favor of the king but by the acquisition of landed property. The idea once conceived never ceased to haunt him. To this idea he sacrificed everything else and first of all the possibility of a happy wedded life. He married for land and signed the contract before he had had opportunity to speak a dozen words with his fiancée. He regarded the property as the main thing,

the wife as a necessary encumbrance. It is gratifying to note that he never secured the property and that his wife was the cause of perpetual unhappiness to him.

Shortly after the death of his father, the Marquis had left the army and exchanging the sword for the pen devoted his life to the examination and discussion of economic questions. He was an indefatigable writer and once made the remark: "Had my hand been of bronze, I should have worn it out long ago." His writings made him famous throughout Europe and one of them, devoted to an attack upon the collectors of revenue,[1] secured him a short imprisonment in the same dungeon where his son afterwards passed three years of his life.

But it is not with the economic ideas of the Marquis that we are at present concerned although we find them repeated in the writings of the son. The father also busied himself with questions of government and in his writings we meet the originals of many of the ideas advanced by Mirabeau the statesman. The participation of the people in the government, the appeal to a constitution based upon natural laws, and the designation of the monarch as the first official of the state are all ideas common to father and son alike.

But while the Marquis was meeting with a large degree of success in his theoretical treatment of economic subjects he did not fare as well when he applied himself to the practical side. Undertaking after undertaking that promised most flattering returns ended disastrously and as one failed he plunged into another to recover what he had lost. He was constantly embarrassed for ready money and had it not been for the assistance received from his brother, the Bailli, would often have been in very straitened circumstances.

Domestic unhappiness added itself to financial difficulties. He began to suspect with the advancing years that he and his wife were not kindred spirits and after forming the acquaintance

[1] De la Théorie de l'impôt, 1760.

of a certain Madame de Pailly, a very beautiful and talented woman, he discovered that there was absolutely no affinity between himself and the mother of his children. In a word he detested her. It was at about this time that Mirabeau was born.[1]

He had a huge head, came into the world with a twisted foot, several teeth already cut and—strangest of all—the future orator was tongue-tied. In infancy, he was attacked by smallpox and the application by his mother of homemade ointment left his face covered with disfiguring scars. He undoubtedly was what his father declared him to be, "as ugly as Satan." The Marquis entertained the most cordial dislike for his son, due in but small part to his ugliness. For the young Mirabeau resembled his mother in many ways and the father began to dislike the child for the mother's sake. His treatment of the boy and the bitter expressions with which his letters to the Bailli overflow can be explained in no other way.

He endeavored to overcome all the evil tendencies that he saw or imagined that he saw in the child by a sternly repressive system of education. Young Mirabeau, who learned with marvelous rapidity and despite his ugliness won the hearts of all with whom he came in contact, was transferred from one instructor to another, each sterner than his predecessor, until he found himself in a military school in Paris and deprived of his family name.[2] After remaining here for some time, he was enrolled in a French regiment and placed under a colonel notorious for the harshness of his discipline. Gambling debts and a love affair that aroused the jealousy of his colonel, induced Mirabeau to fly to Paris. The Marquis whose patience was at length exhausted, talked of shipping the boy off to the

[1] At Bignon, March 9, 1749.

[2] He was known by the name Pierre Buffière, the latter part being taken from the name of a country seat belonging to his mother.

colonies[1] and finally secured a *lettre de cachet*, by means of which Mirabeau was shut up in a fortress on the island of Rhé. After a residence here of several months, he was released to take part as a volunteer in the campaign of 1769 on the island of Corsica, and distinguished himself by his bravery. On his return to France, he sought out his uncle, the Bailli, and in a short time won the good man's affections. Moved by the pleadings of his brother, the Marquis agreed at length to take the prodigal back into his good graces. A brief sojourn in Paris and two trips to the south of France, filled out the short period of harmony between father and son. The Marquis held the purse strings too close to suit the young man who determined to avail himself of the only avenue of escape—matrimony. Following his father's example he fared fully as well. He paid his suit to Mlle. Marignane, drove all suitors from the field,[2] and won her heart, hand, and fortune, only to lose them all in a marvelously short time. The Marquis had opposed the marriage,[3] but finally yielded and Mirabeau and his wife took up their residence on the paternal estates in the Provence. To all appearances, the young man's stormy career was at an end: in reality, it had but begun.

Both the young people were extravagant and Mirabeau was in debt at the time of his marriage. At the end of a year there came a crisis, and to save his son from his creditors the Marquis secured a *lettre de cachet* and placed him in easy durance at Manosque. It was during his residence here that Mirabeau wrote his "Essai sur le despotisme."[4] An escapade

[1] "Ce mot fit une profonde impression sur moi; il a prodigieusement influé sur le reste de ma vie." Lettres de Mirabeau, Paris, 1789, vol. II, p. 105.

[2] "En huit jours, M. de la Valette fut congédié: en huit autres, je fus proposé, et j'avais un parti dans la famille de la demoiselle! Lettres de Mirabeau, II, 114.

[3] Lettres de Mirabeau, I, 117.

[4] Mémoires de Mirabeau, Paris, 1834, vol. IV, p. 4, note. Decrue is in error when he states that the work was composed at Joux (Revue historique, XXI, 278.)

ending in a personal encounter with a nobleman who had insulted his sister, brought forth another *lettre de cachet* and Mirabeau became an inmate of the fortress of If, off the harbor of Marseilles. Here again the surveillance was not sufficiently close to suit the Marquis and he procured a fourth *lettre de cachet* by means of which the much imprisoned young man was domiciled in the fortress of Joux on the eastern frontier of France. As in all previous cases, here also Mirabeau won the good will of the commandant and was soon free to go and come as he pleased. Although nominally a prisoner, he took up his residence in Pontarlier, a town situated at the foot of the hill on which the fortress stood.

He had the entrée of the best society of the place and was especially welcome at the home of M. de Monnier, whose young wife found him extremely fascinating. Mirabeau's wife was no longer with him, having practically deserted him at Manosque. He pleaded with her to return, but in vain.[1] The last restraint upon his actions was removed.

It is needless to deal at length with the Monnier affair. It ended in an elopement and "Sophie and Gabriel" began life in Amsterdam, supporting themselves at first with the gold taken from the till of M. de Monnier and later by the money won by Mirabeau's pen. The "Essai sur le despotism" had been printed in 1775 at Neufchatel[2] and Mirabeau found enough literary work of various kinds to enable him to make both ends meet. But their happiness was not of long duration. Police officers in the employ of the Marquis and of the relatives of Mme. de Monnier hunted them down and bore

[1] "Je reçus quelques lignes glaçées, où l'on m'insinuait avec douceur que j'étais *fou*." Lettres de Mirabeau, II, 200.

[2] The preface to the third edition states, "que l'édition (the second), d'après la quelle celle-ci est imprimée, a paru en 1776." Loménie (V 459) gives 1775 for the first edition, the same date is given by Montigny (Mémoires de Mirabeau, IV. 4, note). Decrue gives 1776 as the first date of publication (Revue historique, XXI, 278). See Stern, I., 91, note.

them as prisoners to Paris. Mirabeau, a victim of a fifth *lettre de cachet*, was placed in the dungeon of Versailles; Mme. de Monnier became an inmate of a reformatory. For more than three years Mirabeau was shut out from the world,[1] suffering, for a larger part of the time, from lack of proper food, clothing and recreation.[2] It was during these years that he produced his work upon "Des lettres de cachet et des prisons d'état." In 1780, Mirabeau was at length released from confinement. He was broken in health and by constant use of his eyes in a dimly lighted cell he had brought on chronic inflamation from which he suffered severly during the remainder of his life.[3] Immediately after leaving Versailles, he made public the work already mentioned.[4] While bearing a less ambitious and also less ambiguous title than his maiden treatise, it was little more than a sequel to it, a second essay upon despotism.

These are the chief events in Mirabeau's life up to the year 1780, when he was thirty-one years of age. During the whole period he had suffered from paternal tyranny and during the last eleven years he had felt the despotic power of the government placed at the disposal of a father relentless in the persecution of a son whom he neither loved nor understood. What more natural than that Mirabeau should become an opponent of despotism, whether of the family or of the state? When in 1775 he published his "Essai sur le despotisme," when in 1782 he gave to the world his work on "Des lettres de cachet," he was pleading his own cause. But his cause was also the

[1] June 7, 1777, to December 13, 1780.

[2] "Il est cependant vrai, Monsieur, que je suis presque nud, réduit à deux culottes de basin, à un habit qui tombe en loques, et que je n'aurais point de bas, si M. de Rougemont n'avait bien voulu m'en faire donner." Lettres de Mirabeau, I, 167. Further particulars in vol. I, p. 43; vol. III, p. 35; vol. III, p. 46.

[3] "Ils deviennent si mauvais, que je crains de les perdre." Lettres de Mirabeau, III, 133.

[4] "A Hambourg, MDCCLXXXII."

cause of millions of Frenchmen.[1] What son could feel safe so long as the father exercised a power resembling in many respects that of the Roman parent? What man in all France could rest secure, when the machinations of an enemy might render him the victim of a *lettre de cachet* and consign him to a dungeon for life? Many others had suffered as Mirabeau suffered. He alone combated despotism "while he groaned beneath its fetters."[2] He had "meditated a long time upon his subject" and was justified in believing that he had "looked at it from all sides."[3] I have shown what Mirabeau suffered under arbitrary rule, and I have now to deal with his criticism upon it and with the reforms that he demanded.

The material upon which the study is based is found in the "Essai sur le despotisme," "Avis aux Hessois," "Lettres originales de Mirabeau," and "Des lettres de cachet et des prisons d'état."[4]

The "Essai sur le despotisme" is a rambling work of three hundred and six pages. The book has been well characterized by Lucas Montigny. He says that "a long and fruitless application has convinced me that in order to find a plan for it, it would be necessary to make one."[5] It bears all the marks of

[1] Die Lehren Montesquieu's, Rousseau's und die der Oekonomisten beherrschten die damalige Zeit; sämmtlich waren diese Lehren hervorgegangen aus der Unzufriedenheit mit dem bestehenden absoluten Regiment." Gradnauer, p. 14.

[2] Des lettres de cachet, vol. I, p. XI.

[3] Ibid, vol. I, p. XI.

[4] Essai sur le despotisme. Troisième édition, Corrigée de le main de l'Auteur sur l'exemplaire de la seconde édition acheté à sa vente. A Paris, 1792.

Avis aux Hessois, et autres peuples de l'Allemagne, vendus par leurs princes à l'Angleterre. Clèves, 1777.

Lettres originales de Mirabeau, écrites du donjon de Vincennes, pendant les années 1777, 1778, 1779 and 1780.....Recueillies par P. Manuel. Troisième édition. 8 vols., A Paris, An 6 de la République, (1798, v. st.)

Réponse aux conseils de la raison. Par l'Auteur de l'Avis aux Hessois. Amsterdam, 1777.

Des lettres de cachet et de prisons d'état. Ouvrage posthume, composé en 1778. A Hambourg, MDCCLXXXII.

[5] Mémoires de Mirabeau, IV, p. 9.

youth. One is impressed by the mass of material brought together, by the lack of order, by the frequent repetitions, and by the indefiniteness of the reform measures. Of the truth of three things, however, the young writer is fully convinced; of the existence of arbitrary rule in France, of the impossibility of justifying it, and of the necessity of a government based upon law. He is fully convinced of the truth of these things, and he is determined to convince his readers. He returns therefore again and again to the attack, making his case needlessly strong for fear that he will not make it strong enough. This treatise was written in 1772 and the first edition was printed, as has been noted, in 1775, by Fauche of Neufchatel. Of the second edition we derive our only knowledge from the letters of Mirabeau where it is mentioned. The third edition appeared in 1792 and was printed at Paris. In addition to the "Essai sur le despotisme," it contains also "Avis aux Hessois" and "Résponse aux conseils de la raison." This is the edition that I have made use of.

While in Holland, Mirabeau wrote his "Avis aux Hessois." It is a little pamphlet of ten pages, and was written at the time when Hessians were being sent to America as mercenaries in the employ of the English government. Mirabeau urged the Hessians to be men, and to resist the power that was sending them to attack a people struggling for liberty. It was the old note against absolutism once more. The prince had no right to dispose of the persons of his subjects. "Men take precedence of princes."[1] This pamphlet appeared in 1777 at Cleves and was reprinted at Paris in 1792.

Perhaps the best known of Mirabeau's works is his "Lettres originales" written at Vincennes during the years 1777, 1778, 1779, and 1780. It was made public by Manuel in 1792 and was several times reprinted. These eight volumes contain,

[1] "Les hommes passent avant les princes qui pour la plupart ne sont pas dignes d'un tel nom." Avis aux Hessois, p. 313.

beside a large number of letters to Mme. de Monnier, and to friends and relatives, letters and mémoires addressed to Mirabeau's father, to the king and to various officials. The letters have an interesting history and it is because of this history that they can be employed only with extreme caution.

When Mirabeau was incarcerated at Vincennes, his father's orders were that he should see no person from the outside world and should correspond with nobody. The young man succeeded, however, in evading the last order. His letters were submitted to the officer in charge of the prison, who after reading them sent them to Mme. de Monnier. She was not allowed to retain them, but returned them after they had been read. They were preserved at police headquarters in Paris where Manuel claimed that he found them. He undoubtedly corrupted them by supplying material, dates, etc., but to what extent, it will be, of course, always impossible to tell. This uncertainty does not add to the reliability of the material.

The last of the works referred to, "Des lettres de cachet et des prisons d'état," was the last of the series of assaults upon arbitrary authority. The *lettre de cachet* was the symbol of absolutism and no man in France knew better than Mirabeau the evils resulting from its use and abuse. The treastise is in two parts, the first being devoted to "Des lettres de cachet." The first edition appeared in 1782 and although it bears the imprint "A Hambourg," really issued from the press at Neufchatel, the censorship of the press in France rendering this deception necessary. This work has been attributed to the Bailli, but without any good reason.

Such is the material upon which this paper is based. The works contain little original matter but are filled with a mass of citations, à propos and mal à propos, from the writers of all times. In his earliest years Mirabeau acquired the habit that has given rise to so much animated discussion between his friends and foes, that of appropriating the literary goods of

others without due credit. Rousse declares that the influence of the treatise upon voluntary servitude by Etienne de la Boëtie is everywhere apparent in the "Essai sur le despotisme," yet Mirabeau nowhere makes mention of the writings of La Boëtie.[1] He draws largely from the works of Montesquieu and Rousseau while differing with them upon important points. Montesquieu would parley with absolutism; Mirabeau would not. Rousseau talked of a return to the primitive state of society; Mirabeau was very well satisfied with society as he found it. There was little original in what Mirabeau wrote, but the manner, the force, the conviction were all his own. Filled with the reform spirit of the eighteenth century, he played the rôle of an advocate of personal liberty and played it with marked success. He took his weapons in whatever armory he chanced to find them and employed them in the most telling manner. The orator is ever present in his works and he writes as he would have spoken to a listening multitude.

I have shown in the preceding pages, that Mirabeau was eminently well fitted, both by birth and by experience, to become an opponent of absolutism. From his father he inherited an independent spirit. But the independence of the Marquis de Mirabeau was more a survival of the past than a precursor of the future: it was feudal rather than democratic in its nature. The spirit of the son was truly democratic, the ripened product of long years of suffering. He had learned to identify his cause with the cause of the French people.[2] It would be difficult to name another historical character in whose lifetime the forces outside himself were so unmistakably shaping him into a great leader of men.[3] As the prison doors of

[1] Rousse, p. 76.

[2] "Car si l'on peut opprimer un citoyen, on pourra succesivement les opprimer tous." Des lettres de cachet, p. 346.

[3] "Der Despotismus, den er am eigenen Leibe erfahren, hat ihn zu dem gemacht, was er sein ganzes Leben geblieben ist." Gradnauer, p. I.

Vincennes closed upon him, Mirabeau was but ill prepared to play the important rôle in which we afterwards find him. He was disgusted with politics[1] and longed for a military life. Had he been left to himself, free to indulge all his passions, his career would have been short and stormy and he would have done nothing to rescue his name from oblivion. "But," says Rousse, "in tearing him from this life of adventure, in condemning him to think in solitude for more than three years, to measure his forces, to slowly develop his genius—despotism forged by its own hands the bolts that were to strike it one day. It armed for the approaching struggle the most redoubtable of its enemies."[2]

What was this government that aroused such a tempest of indignation in the mind of the solitary thinker of Vincennes? How did it appear to Mirabeau himself previous to 1780?

It was the most absolute régime under which Europe had lived up to that time; hardly less despotic than the rule of the czars of Russia in our own day and that too at a time when despotism was little tempered by public opinion.[3] For public opinion can hardly be said to have existed, or if it did exist, dared not assert itself.[4] We needs must understand this to appreciate the hardihood of the man who from the depths of a dungeon, raised his voice against despotism.

In France the word of the monarch was more powerful than the law, for in his presence the law was silent.[5] He claimed the right to rule absolutely, and courtiers strengthened him in

[1] "La politique, dont je faisais mon étude, me dégoute." Rousse, p. 87.

[2] Rousse, p. 87.

[3] "Quelle ressource nous reste-t-il, si l'opinion publique invoque l'arbitraire?" Des lettres de cachet, p. VII.

[4] "Peu de citoyens ont le courage d'élever la voix en faveur de la vérité; nous trahissons presque tous la cause de la patrie, ou plutôt celle de l'homme, par une crainte servile, ou par une pusillanime complaisance." Essai sur le despotisme, p. 112.

[5] "Cet odieux édit met la volonté d'un seul à la place de toutes les loix." Des lettres de cachet, p. 24.
"Le roi est le maître." Ibid, p. 322.

the belief that this claim was just, while the wise men feared to proclaim the contrary. His right to rule was of divine,[1] not human origin; it came from God and not from the people. As it was from God that he had received his power, so to God alone the king was responsible for the use or abuse of that power. God was the sole judge of his acts. The wealth of the kingdom, and the lives of his subjects were his to be disposed of as he saw fit. A natural complement to the divine right of the king was the passive obedience of the subject.[2] Preached from the pulpit and enunciated by publicists these two theories were seldom refuted and almost never with impunity. Public opinion, the irreconcilable foe to all such beliefs, was only in process of formation, and he who saw the evil and proclaimed it could hope for no effective support from the masses of the people.[3] All the instruments of oppression were in the hands of an absolute ruler and were used in the most absolute and arbitrary manner. He who dared to raise his voice against the existing state of things,[4] was cast into prison without trial, without even knowing the nature of the crime with which he was charged, and there left to finish his days, forgotten even by the ministers themselves.[5]

Nor was anything gained for France through the continuance of this highly centralized form of government. Capable of being administered only by men of genius and force, it was beyond the comprehension and control of the weak and ineffi-

[1] "Une puissance qui ne tient son droit à sa couronne que de Dieu." Des lettres de cachet, p. 281, note 14.

[2] "L'obéissance passive devient à la mode." Essai sur le despotisme, p. 125. Des lettres de cachet, p. 23.

[3] "La plupart des hommes prostituent l'humanité par une obéissance passive." Essai sur la despotisme, p. 70.

[4] "Ce temps est passé, les paroles sont des crimes; la liberté de penser est presque refusée." Essai sur le despotisme, p. 67.

[5] "La justice n' y existe pas; il n' y a point de citoyen." Essai sur le despotisme, p. 64.

cient ministers into whose hands it fell. The monarch seemingly believed that by his "good pleasure" he could create a Turgot or Colbert out of the intriguing courtiers that surrounded him.[1] The control of the government was in their hands not his[2] and working through such a medium even so well meaning a prince as Louis XVI could accomplish nothing.

The finances of the kingdom were in a most deplorable condition. Although vast sums were collected from the people but a small part of them ever reached the royal treasury, and as the administration was entirely irresponsible, nobody knew how much came in or how much went out, nor for what purposes the royal revenues were expended.

As bad as was the state of the finances, the administration of justice was even worse. It was with the abuses in this department of government that Mirabeau dealt in all his early works.[3] With the other departments he was concerned only so far as their maladministration influenced the administration of justice.[4] Unquestionably one of the most crying abuses was found in the use of the *lettre de cachet* of which Mirabeau had been so many times a victim.[5] It was an arbitrary order to arrest some person and to confine him in a certain place for an indefinite length of time. The order was often issued in blank form and signed by the minister to be filled out by the party

[1] "Il crut qu'avec sa pleine puissance, son autorité royale and son bon plaisir, il feroit d'un homme de robe un ministre de la guerre." Essai sur le despotisme, p. 147.

[2] "Vous direz toujours: nous voulons: et vous ferez toujours ce que voudront les autres." Des lettres de cachet, p. 180.

[3] "Mirabeau a passé la première partie de sa vie à réclamer pour ses compatriotes la liberté civile." Decrue, Revue historique, XXIII, p. 309.

[4] "Mais je n'ai point annoncé une traité sur la liberté politique et civile. Je réclame seulement le libre et inviolable exercice des loix établies dans notre constitution." Des lettres de cachet, p. 209.

[5] "J'ai été frappé successivement depuis cinq ans de sept lettres de cachet." Lettres originales de Mirabeau, vol. III, p. 183.

desirous of disposing of some personal enemy. To obtain a hearing was practically impossible and the poor wretch was often condemned to pass his life in solitude, not knowing the name of his accuser nor the crime of which he was accused. The number of these letters issued under one minister ran up into the thousands.[1] So many were issued to Mirabeau's father —who used them to rid himself of a wife, a son, and a daughter—that he at last exhausted the patience of the government. In 1780 there were thousands of men languishing in French dungeons who had been brought there through the instrumentality of a *lettre de cachet*. Is it to be wondered at that Mirabeau exclaimed in Vincennes, "Are the laws without force in France?"[2] His civil death had been pronounced and he had not been permitted to defend himself.[3] Without any justification, the monarch or any of his ministers might deprive any of his subjects of their liberty for long periods of time.[4] That had been done in the case of Mirabeau and he was forced to deal with a question that was of world wide importance, the right of every man to "life, liberty and the pursuit of happiness."[5] This he demonstrated in his works by every argument at his command. Add to the evils already enumerated, the crushing censorship of the press, public instruction lacking quality and quantity, and the frightful legal inequality existing between the different classes and the picture is complete.

[1] "Le cardinal de Fleuri s'est vanté, dit-on, d'avoir fait expédier quarante mille lettres de cachet. Sans doute il a été, sinon surpassé, de moins égalé." Des lettres de cachet, p. 274.

[2] "Les lois sont-elles donc sans force en France?" Lettres originales de Mirabeau, vol. II, p. 58.

[3] "Ma mort civile est prononcée, sans qu'on daigne m'admettre à me justifier." Ibid, III, p. 184.

[4] "Grands, petits, riches, pauvres, tous sont menacés." Des lettres de cachet, p. 94.

[5] "La liberté est le droit inaliénable de tous les hommes." Des lettres de cachet, p. X.

Such was the government of France as Mirabeau saw it. Before speaking of the reform measures demanded by himself, I wish to note briefly the changes proposed by two great publicists whose works were much read at this time and to summarize Mirabeau's criticism of their views.

I have already referred to the fact that Mirabeau made much use of the writings of both Montesquieu and Rousseau. Each man had his school.[1] Mirabeau was a member of neither school. Montesquieu was strongly infatuated with the English constitution, would have gladly seen the French government take the same shape regardless of the fact that in France the foundation to such a superstructure was entirely lacking. Even in his early manhood, before he had visited England, Mirabeau was not ignorant of the weakness of the English government,[2] and would have none of it.[3] Moreover Montesquieu had not suffered sufficiently from the absolutism of the French monarchy to become a zealous apostle of reform. He was inclined to compromise matters[4] and is charged by Mirabeau with half-heartedness in his work.[5] Whatever influence Montesquieu's writings may have had in bringing on the French Revolution, he certainly had no desire to pose as a defender of personal liberty against absolutism. But this was the vital point. First of all the fact had to be estab-

[1] "Er versuchte es, den besten Teil aus jeder von jenen Lehren herauszuschälen." Gradnauer, p. 16.

[2] "Que la belle théorie de leur governement est très mal appliquée dans la pratique." Des lettres de cachet, p. 232.

[3] "La constitution angloise que l'auteur de l'Esprit des loix regarde comme le chef—d'oeuvre de l'esprit humain, opinion que je suis bien loin de partager." Ibid, p. 207.

[4] "J'avoue, dit l'auteur de *l'Esprit des loix*, que l'usage des peuples les plus libres qui aient jamais été sur la terre, me fait croire qu'il y a des cas où il faut mettre pour un moment un voile sur la liberté." Ibid, p. 190.

[5] "Ces réticences pusillanimes prêtent des armes aux méchans et découragent les bons." Ibid, p. v.

lished that the indiuidual must be free[1] and that he can be free only under a government based upon law and not upon the arbitrary wishes of an individual.[2] Mirabeau saw this clearly and saw too that the form of this legal government was a secondary matter.[3] Here he was more truly representative of the real spirit of the time than was either Montesquieu or Rousseau. He saw more clearly than either just what was needed.[4]

He refuted Rosseau's theory of a social contract[5] and to the proposal that man betake himself again to his primitive state, fleeing civilization and all the ills that it brings in its train, Mirabeau facetiously responded that he could not persuade himself that men had made such a bad move when they drew near to one another.[6] Moreover, men were not likely to take to the woods again until a new Timon appeared, "as eloquent as M. Rousseau, to convert them to this sad kind of life."[7] Would it not be more to the point, he asked, to enlighten man instead of showing him that he ought not to exist.[8] Mirabeau

[1] "Or la liberté des particuliers est la base de la liberté publique et la principale fin de tout gouvernement équitable." Ibid, p. 122.

[2] "En principe, il pose que si l'arbitraire est dans certains cas necessaire, ce n'est pas au roi qu'il faut le permettre." Decrue, Revue historique, XXII, p. 64.

[3] "Le régime n'est que la forme du gouvernment; peu importe qu'il soit monarchique ou republicain pourvu qu'il soit bon." Decrue, Revue historique, XXII, p. 44.

[4] "Le plus grand intérêt des hommes est donc de garantir leur liberté par des loix dont l'exécution ne puisse être éludée ni le cours interverti." Des lettres de cachet, p. 168.

[5] "L'étude approfondie de l'histoire prouve que le contrat originel est une chimere." Ibid, 72.

[6] "Pour moi, je ne saurais me persuader que l'homme ait fait un mauvais marché quand il s'est rapproché de ses semblables." Essai sur la despotisme, p. 34.

[7] Ibid, p. 34.

[8] "Il vaut donc mieux s'efforcer de l'éclairer, que lui montrer qu'elle a tort d'exister." Ibid, p. 33.

was too much of a statesman, he was too familiar with history to be misled by the teachings of Rousseau; he had suffered too much, he was too much in earnest in his efforts to secure civil liberty for his fellow countrymen to be satisfied to follow in the footsteps of Montesquieu. Both of these men and many others were active in the work of regenerating society, but neither of them saw as clearly as Mirabeau the point at issue; neither of them struck such heavy, continuous, effective blows as he.

It was natural for one who had passed so many years of his life in prisons of state to throw into the foreground of his reforms demands for personal liberty and personal security. Civil liberty, wrote Mirabeau, is the basis upon which all society rests[1] and the law exists to maintain this liberty.[2] Without a government based upon law all is insecure[3] and the state even under a gracious ruler may suffer many of the evils attendant upon absolutism.[4] Experience, then, that taught Mirabeau the value of civil liberty, taught him also the value of law[5] as a guarantee of that liberty and convinced him that the reign of law should never be suspended.[6]

The law, he continued, must ever be supreme[7] for only thus

[1] "Qu'importe la liberté politique à qui n'a plus la liberté civile? N'est ce pas celle-ci que toute constitution doit surtout assurer?" Des lettres de cachet, p. 88.

[2] Des lettres de catchet, p. 168.

[3] "Les nations seront le jouet d'un seul ou d'un petit nombre, tant que leurs législations ne limiteront pas l'autorité de leurs chefs, de manière qu'ils ne puissent jouir que de la félicité publique." Des lettres de cachet, p. 167.

[4] Des lettres de cachet, p. 87.

[5] "Ces loix qu'il était impossible de refuser à un peuple, à moins de lui declarer qu'on vouloit le gouverner par les principes orientaux." Des lettres de cachet, p. 2.

[6] "Il n'y a point de cas où il faille même pour un moment, violer la liberté." Decrue, Revue historique, XIII, p. 310.

[7] "Il faut être esclave ou libre: c'est-à-dire, soumis aveuglément au droit du plus fort, ou ne dépendre que des règles éternelles de l'équité." Des lettres de cachet, p. 321.

can justice be done and to Mirabeau it was above all important that justice should be rendered to every man and at all times.[1] This he demanded as a right,[2] he did not ask it as a favor.[3] Without the reign of law and the enjoyment of liberty and security by the individual he saw no difference between the government of France and that of Turkey.[4] And in this respect no difference did exist at that time. But this state of things had not always existed[5] and it was to the earlier and happier condition that Mirabeau wished to return.

With prodigious industry he swept together citation after citation from the Greek and Latin writers, from the Capitularies of Charlemagne and the law books of the later kings to prove the illegality of royal interference with the course of justice.[6] The mass of testimony that he gathered was sufficient in quantity, at least, to crush his opponents. He conceded that abitrary imprisonments had taken place,[7] but no king of France had yet dared to declare such acts legal.[8] Citation after citation proved the recognition by the kings of the right of their subjects to public trial and, if found guilty, to public sentence.[9] There was but one way in which the king might legally

[1] "Chaque citoyen a dans tous les cas et sans exception, le droit de n'être jugé que suivant les loix et par des juges compétens." Ibid, p. 344.

[2] Des lettres de cachet, p. 209.

[3] "Ce ne sont pas de graces que j'ai sollicitées" Lettres originales de Mirabeau, Vol. III, p. 203.

[4] "Que le pouvoir judiciaire dont nos tribunaux sont investis constitue la différence presque unique de notre gouvernement à celui des malheureux Asiatiques?" Des lettres de cachet, p. 144.

[5] "Cette révolution qui a totalement changé notre constitution, notre gouvernement et nos maux." Des lettres de cachet, p. 22.

[6] "Nos premiers rois ont déclaré aussi bien que leur successeurs que leur autorité seroit de nulle valeur toutes les fois qu'elle seroit en contradiction avec la loi." Ibid, p. 9.

[7] "Qui ne sait avec quelle facilité ils s'accordent ces ordres qui punissent des fautes comme des crimes?" Ibid, p. 249.

[8] "Eh! pourquoi, si le droit des emprisonnemens illégaux est incontestable, ne l'a-t-on pas consigné dans une loi?" Ibid, p. 5.

[9] — Lettres originales de Mirabeau, II, 184. Des lettres de cachet, p, 251.

interfere with the course of justice: he could pardon the condemned or commute his sentence.[1] To this rule there was no exception.[2] For if exceptions were to be allowed who was to judge of the propriety of them?[3] The moment they were allowed, the moment a ruler was permitted to withdraw a citizen from his natural judges, to deprive him of the right of public trial, just at that moment the door was swung wide to absolutism.[4] The laws might be defective and barbarous;[5] they might lack unity, but in the laws alone was security to be found, and the rulers might mitigate their severity. Mirabeau recognized, too, the necessity of basing the laws upon general principles,[6] of co-ordinating them, of bringing them into harmony with the laws of nature.

That he should consider it necessary to dwell at such length upon these points, to confute with such lengthy arguments the advocates of absolutism was not due to his youth and an overestimation of the importance of the questions at issue. The reign of law was as yet a thing of the future and Mirabeau, the "apostle of civil liberty," was to do all that in him lay to hasten its coming. Already the moderateness and justness of his demands had stamped him as a reformer, not as a revolutionist. Neither now nor later did he ask for aught that could not justly be granted, for he asked for little more than what the French people had already enjoyed in times past. He praised the days

[1] Des lettres de cachet. p. 352.

[2] Decrue, Revue historique, XXII, p. 64.

[3] "Est-il probable que quelques souverains trouveront jamais leur volonté contradictoire avec *la raison et la justice* dont ils seuls juges?" Des lettres de cachet, p. 111.

[4] "Ou le regne absolu des loix, ou le regne absolu du despotisme." Ibid, p. 179.

[5] Ibid, p. 327.

[6] "Remontons donc aux principes, afin de répondre une fois à ceux qui posent le fait à la place du droit; prouvons que celui de toute legislation est fondé sur la loi de nature, les lumières de la raison, le voeu et le consentement général." Ibid, p. 25.

of Louis XII[1] and of Henry IV,[2] for these kings had governed in accordance with the laws and not in opposition to them. Elizabeth of England also called forth his warmest commendation;[3] she, too, had respected the laws. But if Mirabeau's demands were not revolutionary, his opinions were positive and were announced in no uncertain tone. He declared that man had no other master than the law,[4] that it should never be suspended[5] and that when the law was in force man was free.[6] These are but a few of numberless quotations that might be made to prove how clearly Mirabeau perceived the real significance of the struggle that was about to take place. Civil liberty was to be the first fruit of it, and it was one more evidence of the greatness of Mirabeau that he presented thus early a program representing the possible and permanent advance to be made at this time in the form of the French government.

Yet, while he confined himself very closely in his works to the issue between law and absolutism and "saw in the judicial reforms the chief end of the Revolution," Mirabeau did not neglect other matters. In truth, a clear and forcible demonstration of the first point made the treatment of other points necessary. France was living under an absolute régime; how should the reign of law be restored and maintained? What should be the form of the new government that was to take the place of the old?

[1] "Louis XII, père peu éclairé de son peuple, mâis vraiment bon, constant ami de la justice, simple dans ses meurs." Des lettres de cachet, p. 289.

[2] "J'ai cru devoir entrer dans ces détails pour répondre à ceux qui reprochent à Henri IV, à cet homme adorable." Essai sur le despotisme, p. 251.

[3] "Jamais les loix n'eurent plus de vigueur que sous son règne; aussi fut-elle l'idole de sa nation, et elle le marita à beaucoup d'egards." Essai sur le despotisme, p. 264.

[4] "L'homme n'a d'autre maître que loi." Decrue, Revue historique, XXIII, 310.

[5] Ibid. XXIII, 310.

[6] "Lorsque les loix sont en vigueur, on peut se croire libre." Des lettres de cachet, p. 208.

Nowhere in his earlier works does Mirabeau present a scheme of what he considered a government fit for France. Why should he? He was no more of a dreamer, of an idealist, at this time than he was ten years later. He recognized now as he did then that the French people were not a nation of savages just issuing from the woods, but one with a long and interesting past, and a past that could not be overlooked. To make a clean sweep of all existing social and political forms that a new and ideal structure might be erected on a foundation free from débris, would not have recommended itself to his mind at this moment any more than it did in 1789. He possessed as much hard common sense now as then and had advanced very far in his training for a public career. Possessing in an eminent degree the historical sense, he always counted with the existing and endeavored to answer the question: "What changes are necessary and possible at this time?"

Civil liberty was the work that Mirabeau aimed at.[1] This could be guaranteed to all men only so long as the law was supreme, and justice was meted out in accordance with that law. But what if the law should be unjust, the expression of a tyranical and absolute spirit? Then the laws must be reformed to express the wishes of the people, and must conform to the laws of nature and universal principles of right. The laws should be made by the people and for the welfare of the people, not by the king and for the welfare of the king. This law-making power should be exercised by the people through their representatives. There was nothing revolutionary in this demand nor was Mirabeau in making it going any farther than the Marquis had already gone.[2] The representative idea was

[1] "Poussant plus loin la confusion des termes, il désigne souvent sous le nom de *loi* la constitution, comme si la constitution ne tendait qu'à une seule fin, établir une loi propre à garantir les accusés du despotisme ministérial." Decrue, Revue historique, XXIII, 340.

[2] "Jeder will etwas für den König sein, denn jeder segnet ihn und hält sich für frei, wenn er einigen Anteil an der Verwaltung hat. Darum fürchte man nichts von 'Repräsentation des Volkes.'" Stern, I, 24.

not a new one in France, where provincial and even national estates had long existed. It is true that most of the provincial estates had been abolished or rendered powerless by absolute rulers, yet in demanding their restoration Mirabeau was still influenced by the reforming spirit, the spirit of Turgot and not of Robespierre. But let no confusion arise as to what he understood by representation. Three estates then existed independently and formed the three parts of all representative assemblies. I see no reason to conclude that Mirabeau wished to abolish these classes although he would doubtless have treated at this time the question of equal representation for the third estate and the vote by head just as he did in 1789. He had no occasion to treat it, however, and Mirabeau was never the man to anticipate any question although he was generally prepared for it when it presented itself.

He demanded, then, justice administered in accordance with laws emanating from the people and watched over by their representatives. In a word, civil liberty could be secured only by a certain amount of political liberty and political liberty could be guaranteed only by a constitution. And a constitution was something that Mirabeau believed had existed in France but had gone down before absolutism. To restore this constitution, not to create a new one, was the work to be done.[1]

Instead of an ideal government, he had before him as a model the government of Henry IV. It was a limited monarchy for this seemed to him the best of all forms of government. He did not love the democracy and spoke with aristocratic scorn of the tyranny of the uneducated masses. While he claimed civil liberty, that is equality before the law,[2] for

[1] "Mirabeau fut satisfait de ce changement qui ramenait le roi du rang de despote à celui de magistrat supreme." Decrue, Revue historique, XXII, 54.

[2] "C'est en cela que les hommes sont et seront à jamais égaux." Des lettres de cachet, p. 32.

all men, he had no desire to confer political liberty upon all[1] nor to abolish the distinctions of rank.[2] He was at the same time a monarchist and aristocrat; but a monarchist who believed in constitutional government and an aristocrat who felt the responsibility that rank brought with it.[3] He considered a nobility necessary to a monarchy, but before the law the noble was in no respect a privileged character. Every nobleman who was useless to his fellow countrymen was "a veritable bankrupt."[4] As we read this sturdy expression and glance back over the line of Mirabeau's ancestors, we perceive clearly from what source it had been derived. The Mirabeaus will never be charged with being "useless to their fellow countrymen." From the first to the last, almost without exception, they were men who deserved the esteem in which they were held.

"Faithful subject of good kings, implacable enemy of tyrants"[5] was Mirabeau's motto; it seems almost needless to add that he considered "the limited monarchy the only good government."[6] Decrue has well called him "a monarchist by instinct and by reason."[7] But the monarchy of Mirabeau differed fundamentally from the government then existing in France. He declared "Nations shall not be the playthings

[1] "Ce n'est pas tant l'égalité sociale et même politique que l'égalité civile." Decrue, Revue historique, XXIII, 315.

"Il ne réclamait l'égalité absolue qu' en matière judiciare." Decrue, Revue historique, XXIII, 352.

[2] "Mais Mirabeau ne désire pas la suppression complète de la noblesse." Decrue, Revue historique, XXIII, 315.

[3] "Il lui fallait une noblesse car il la croyait essentielle à la monarchie." Decrue. Revue historique. XXIII, 315.

[4] "Il suit de cette belle et judicieuse pensée que tout grand inutile à ses compatriotes est un véritable banqueroutier." Essai sur le despotisme. 72.

[5] "Fidèle sujet des bons rois, implacable ennemi des tyrans ; telle est ma devise." Réponse aux conseils de la raison, 336.

[6] "Que la monarchie modéré étoit le seul bon gouvernement." Essai sur le despotisme, 217.

[7] "En effet, il est monarchiste. monarchiste d'instinct et de raison." Decrue. Revue historique, XXII, 46.

of kings"[1] and "men take precedence of princes."[2] Moreover the nation was as much superior to the king as the king was to an individual.[3] Without any circumlocution he called the king the first salaried officer of the state[4] and affirmed that the nation had given itself a king that it might not have a master.[5] He believed in hereditary succession and considered election inadvisable.[6] The French king had formerly been "the first gentleman, and truly chief of the nation."[7] He had been "first among equals,"[8] had won the esteem and love of his subjects.[9] He was instituted for society[10] and "was respectable only when he was the father, the defender, the organ of the country, for the advantage of which he was elevated."[11] He was respectable just so far as he was "useful"[12] and it was only this bond of utility that held prince and subject together,[13] for "the people were not destined by divine right to be the beasts of burden" of kings.[14] Moderation and an iden-

[1] Des lettres de cachet, 69.

[2] Avis aux Hessois, 313.

[3] "C'est qu'un peuple est aussi supérieur à son souverain, que le souverain à un individu." Réponse aux conseils de la raison, 332.

[4] "Vous êtes en un mot, son premier salarié." Essai sur le despotisme, 84. The Marquis had the same idea. Stern I, 36.

[5] "Ils penseront, qu'ils ne se donnèrent un prince que pour se préserver d'avoir un maître." Essai sur la despotisme, 93.

[6] Des lettres de cachet, 74.

[7] "Nos Rois premiers *gentils-hommes* et vraiment chefs de la nation." Ibid, 270.

[8] "Nos souverains, *premiers entre egaux*." Essai sur le despotisme, 271.

[9] "Nos souverains . ..... qui prisoient notre estime et recherchoient notre amour." Ibid, 271.

[10] "Qu' un roi, chef de la société, n'est institué que par elle et pour elle." Essai sur le despotisme, 291.

[11] "Le monarque n'est respectable qu'alors qu'il est le père, le défenseur, l'organe de la patrie, pour l'avantage de laquelle il fut élevé." Essai sur le despotisme, 303.

[12] "Il faut d'abord qu'elle soit utile. Le monarque doit veiller sur l'ordre public, sur le bonheur de chacun." Decrue, Revue historique, XXII, 49.

[13] "Votre peuple et vous ne tenez l'un à l'autre que par lien étroit de l'utilite." Essai sur le despotisme, 86.

[14] "Que leur peuple n'est pas destiné de droit divin à leur servir de bêtes de somme ou de passe-temps." Ibid, 81.

tification of his interests with those of his people were the only means of security.[1] The king was the first magistrate,[2] not master, and he ruled by the consent of the people, who might, if they would, change the line of succession.[3] For this reason, the king was more dependent upon the people than the people upon the king.[4] His will was not law and his true policy was to trust to the law[5] as his chief duty was to execute it.[6]

With the absolutism of the prince, secrecy of administration must also cease.[7] With fine irony Mirabeau ridicules the idea that the policy of a government is a matter beyond the comprehension of the average man.[8] He declared that the days were past when one "believed in the necessity of a mysterious policy and of a hieroglyphic jargon."[9] He arraigned sovereigns and ministers for the crimes committed under the cloak of state policy[10] and declared that "the interest of the state and probity should never be separated."[11]

[1] "Vous ne régnez sur nous qu'en réunissant nos volontés aux vôtres." Des lettres de cachet, 71.

[2] "Vous êtes les salariés de vos sujets et vous devez subir les conditions aux quelles vous est accordé ce salaire sous peine de la perdre." Essai sur le dospotisme, 97.

[3] "On a oublié que le droit de la souveraineté, résidant uniquement et inaliénablement dans le peuple, le souverain n'étoit et ne pouvoit être que le premier magistrat de ce peuple; que le droit de l'héritier de la couronne étoit le don de la nation et qu'ainsi il pouvoit être changé et restreint pa la nation." Des lettres de cachet, 74.

[4] "Les roi dépendent donc plus d'eux qu'ils ne dépendent des rois." Des lettres de cachet, 66.

[5] "Que le prince mette sa confiance dans les loix légitimées par le consentment général." Des lettres de cachet, 181.

[6] "La seule autorité qu' il soit impossible d'arracher au monarque, c'est celle de la loi agissante." Ibid, 107.

[7] "Ils penseront que le véritable secret d'état consiste uniquement à rendre les hommes heureux." Essai sur le despotisme, 93.

[8] "N'importe, ce grande mot de *politique* en impose toujours à l'imagination des hommes; ils pensent que tout est merveille." Des lettres de cachet, 104.

[9] Essai sur le despotisme, XXVI.

[10] Des lettres de cachet, 106.

[11] "L'intérêt d'état et la probité ne peuvent jamais être séparés." Essai sur le despotisme, 247.

The power wielded by the monarch was derived from the people, the source of all law and all government.[1] This sovereign people made laws through its representatives, enjoyed freedom of instruction, freedom of speech and of the press and were bound to render obedience to the king so long as he ruled in accordance with the laws.[2] The moment the king transformed his will into law, at that moment obedience ceased to be a duty for the subject. The question "Who are the people?"—a very important one to us—Mirabeau does not discuss. He did not at that time feel the necessity of treating the subject. But his frequent references to the importance of instruction[3] and his insistence upon the point that office should be held only by those who are qualified for it,[4] would justify us in concluding that he would place the government in the hands of the intelligent portion of the nation. He evidently believed at this time that if the old estates were called together as in former years and were composed of intelligent men, they would represent the nation.

In this limited monarchy wherein all men were to be equal before the law and individual liberty to be secured to each, "the unique base of authority was public opinion,"[5] enlightened by instruction and making its wants known through the media of free speech and a free press.[6] No man understood

[1] "La nation est la source de tous les pouvoirs." Decrue, Revue historique, XXIII, 329. Des lettres de cachet, 74.

[2] "Le peuple n'enfreint les lois que lorsque le gouvernement lui-même les a le premier violées." Decrue, Revue historique, XXII, 49.

[3] "Je crois aussi que l'instruction, qui me paroit devenir générale chez les americains, est le rempart inexpugnable de liberté." Response aux conseils de la raison, 335.

[4] "Mais rien n'est aussi criminel que de se charger d'une function publique dont on est incapable." Essai sur le despotisme, 172.

[5] Des lettres de cachet, 119.

[6] "Cette politique, qui interdit la liberté d'écrire et de publier ses pensées, est aussi mauvaise comme politique, qu'elle est barbare comme *loi*." Essai sur le despotisme, 283.

better than Mirabeau the value of public opinion; no man understood better than he how hopeless the condition of the state was when public opinion became vitiated. In the opening pages of *Des lettres de cachet*, referring to the fact that public opinion was not sufficiently united against absolute government and that its apologists were numerous, he exclaimed, "What resource remains to us if public opinion invokes arbitrary rule?"[1] It was to prevent that misfortune, to interest the public, that the work was written. He had no expectation that he would gain a hearing with the ministers, but he did hope to convince the intelligent portion of the nation that arbitrary rule was utterly indefensible. "Instruction," he cried, "will do all things for society."[2] The king must be "trained for his trade"[3] and the subjects must be taught their rights and duties. The reign of reason and intelligence once established, all strife would cease.[4] The king would perceive that his own interests and those of his subjects were identical and the subjects would readily yield allegiance to a ruler who had their welfare so thoroughly at heart. In Mirabeau's scheme there was no place for religion. In this respect, as in all others, he was a typical eighteenth-century character, overestimating the influence of intelligence and totally disregarding the power of religion.

Such then were the reforms that Mirabeau demanded. Had they been granted, they would have substituted law for the arbitrary rule of one man, and have changed a despotism into a

[1] "Quelle ressource nous reste-t-il, si l'opinion publique invoque l'arbitraire?" Des lettres de cachet, VII.

[2] "L'instruction, cette arme plus douce, plus puissante même avec le temps, suffira à l'organisation des sociétés, et la préservera des convulsions de la violence." Essai sur le despotisme, 38.

[3] "On convient assez communément du besoin d'apprentissage pour tous les métiers: celui de gouverner ses semblables est le seul pour lequel tout homme se croit des talens." Ibid, 109.

[4] "Instruisez les rois et les sujets, et le despotisme est coupé par le pied." Ibid, 57.

"Apportez la lumière et vous les verrez tous en paix." Ibid, 9.

limited monarchy. But what hopes had he that they would be granted and in case they were not, by what means could society secure its rights?

Upon this subject he held different opinions at different times. He was honestly opposed to revolution and illegal measures, but when off his guard he often declared that revolution was justifiable when a ruler had proved false to his vows.[1] And upon the subject that lay nearest to his heart, personal liberty, he asserted that a man was justified in taking any step, any step "without exception," in order to break his chains.[2] When charged with preaching revolt—in his address to the Hessians, he denied that he had any such intention and endeavored to defend himself. When filled with indignation, he warned the kings that their arbitrary rule would eventually cost them their thrones; but in his calmer moments, when he turned to the people, he spoke of the "force of inertia" as an effective weapon against absolutism.[3] His conservatism found utterance when he affirmed that "all changes, all new constitutional establishments are rarely without danger."[4] He never lost sight of this fact even in the Revolution when he was nominally the leader of the populace. Yet if he did not preach revolt, his writings were certainly influential in producing a public opinion that would render revolution most natural. He looked forward to the time "when truth, generally diffused, by assur-

[1] "Quand l'autorité devient arbitraire et oppressive ..... la résistance est de devoir." Reponse aux conseils de la raison, 329.

[2] "Comme si tout, je dis *tout* sans exceptions n'étoit pas permis à l'homme pour rompre ses chaines." Des lettres de cachet, 269.

[3] "Mais tout citoyen a une force d'inertie qui ne lui permet point de concourir à une injustice manifeste et l'exercice universel de cette force sauveroit la chose publique." Ibid, 326.

[4] "D'où l'on doit conclure que les changemens ou les nouveaux établissements constitutifs sont rarement sans danger." Essai sur le despotisme, 287.

ing itself of the plurality of suffrages would triumph over ambition, intrigue and despotism.''[1]

That time did come in his own day, but the triumph was not won without bloodshed. The very first months of revolution secured all and more than all that Mirabeau had demanded. He saw civil liberty granted to all and law seated in the place of arbitrary power. His dream had become a reality and the cause for which he had fought so valiantly had no longer need of his voice or pen. But then a new cause demanded his advocacy. The throne was in danger and during the two years of his public life Mirabeau displayed as great energy, zeal and skill in the defense of the limited monarchy as he had previously exhibited in his struggle with absolutism.

[1] ''Si je me trompe en pensant que la raison et la vérité généralement répandues pouroient un jour, en s'assurant de la pluralité des suffragest triompher de l'ambition, de l'intrigue et du despotisme c'est du moins une erreur honnête.'' Des lettres de cachet. VII.

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LINCOLN, NEBRASKA

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University Studies.

Vol. II. *JANUARY, 1897.* No. 2.

I.—*History of the Discovery and Report of Progress in the Study of Daemonelix.*[1]

By ERWIN HINCKLEY BARBOUR.

On several former occasions the author has described at some length the new fossil Daemonelix. But in each case this was done cautiously, and with a full recognition of the fact that the author was treading on new ground. Even now, after four years of study—such as could be snatched at odd moments—he must still speak cautiously and tentatively, lest mistakes be made and misconceptions result.

The author visited the region of the Daemonelix beds for the first time in June of 1891. It had been his intention all along to explore this field in the interest of Iowa College, and with that end in view all the appropriations of the year previous had been carefully husbanded. In the meantime, having received and accepted a call to the University of Nebraska, he set out in the interests of that institution.

The exact spot in which Daemonelix was to be found was really decided by Professor J. S. Kingsley, who had visited the Bad Lands before, and out of his interest in the region had urged the writer to go thither, and had even prearranged many of the details of the trip.

Late in the afternoon of June 29, we drove for the first time to the Daemonelix beds, making a cursory review of the

[1] Read before the Nebraska Academy of Science, January 3, 1896.

exposures at and around Eagle Crag, two and a half miles north of Harrison, Sioux county, also of those east and south of the village. By vigorous work on the following day, one large and excellent specimen was secured, and many others were sketched and photographed. Further work was abandoned temporarily, to be resumed after visiting the Bad Lands proper.

The Daemonelix beds and their remarkable fossils are peculiarly striking features of the region, and are well known to the citizens of the country; and it seems inexplicable that these "stone screws," "twisters" or "Devil's corkscrews" should have escaped public notice so long.

The name Daemonelix, accompanied by a brief description with cuts, was proposed in *Science*, February 19, 1892.

The data being insufficient for a more formal report, the author found it advisable to visit this region again, from May 1st to 10th, 1892, and from the facts obtained a second paper followed, *On a New Order of Gigantic Fossils*, in the UNIVERSITY STUDIES of July, 1892.

On June 20, 1892, the author was called upon to take charge of the Morrill Geological Expeditions, founded and maintained by the Hon. Charles H. Morrill, of Lincoln. With a large and well equipped party the work of exploration was greatly facilitated, and a large amount of excellent material was secured, warranting a third paper in the UNIVERSITY STUDIES, July, 1894, under the title *Additional Notes on the New Fossil, Daemonelix—its Mode of Occurrence, its Gross and Minute Structure.*

Although the author visited this region again in 1893, and in August of 1894, yet work was discontinued there—owing to press of engagements in other parts of the state—till the summer of 1895, when he had at his disposal the largest and most efficient party sent out as yet on the annual Morrill expeditions.

The facts and material obtained on this expedition form the chief basis of this paper. The progress made in the study of Daemonelix is marked by the exploration of new territory, the finding of new forms, and, foremost of all, by the discovery of steps in the apparent phylogeny of these anomalous forms.

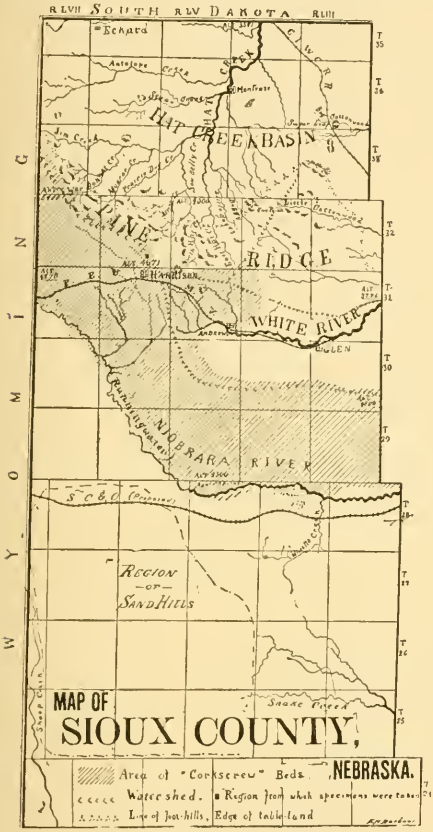


Fig. 1.—Map of Sioux county, Nebraska, showing in the shaded portion, between the White and Niobrara rivers, the area of the Daemonelix beds. Drawn from a map prepared by Judge S. Barker, of Harrison.

In extent the Daemonelix beds must cover 400 to 500 square miles of the central portion of Sioux County, the extreme northwestern county of Nebraska, between the Niobrara river on the south and the White River and Hat Creek Basin on the north. This is the region of the lofty Pine Ridge table lands, whose altitude is about 5,000 feet. Just how far the Daemonelix beds extend into Wyoming, where they are now known to occur, and how far south they extend in Sioux county is yet to be determined, although it is safe to say that the beds are practically confined to the central portion of the county. In vertical range the beds are now known to reach a depth of sixty to seventy meters.

The formation to which the Daemonelix beds belong is

distinct Loup Fork Tertiary, as recently identified by Dr. J. L. Wortman, its entire thickness being about 200 to 300 meters. The topmost sixty or seventy meters constitute the Daemonelix beds. The surface configuration of these beds is bold and rugged. Subjected as they are to excessive erosion, and to the violence of unbroken winds, the surface is characterized by bare lands, by draws and canyons, by blow-outs, bluffs, and buttes. In all these exposures Daemonelix is an ever-present and conspicuous feature. It intrudes itself upon you at every turn. On lands laid bare by erosion the half-exposed and weathered tops of countless Daemonelix project. There they stand bolt upright till overthrown by the elements. We have picked our way through acres of these fallen spirals. In wails, bluffs, and buttes, they are particularly accessible to the collector.

It is apparent at a glance that they flourished in numbers of which one can form no conception. Growing closely packed side by side, they are often inextricably tangled and fused together. We have counted as many as twenty or thirty in the space occupied by an ordinary dwelling house. We have often destroyed several while digging out one.

Two forms, from their very size and perfect symmetry, force themselves into prominence at once; those with an axis, and those without.

However modified in form, however varying in size, whether no larger in diameter than saucers, or greater than cart wheels, they are constant in that they are invariably upright. They are entirely inconstant in the direction of the twist, being indiscriminately right-handed or left-handed screws. After examining great numbers, I am unable to say whether the greater number twists to the right or left.

At first we supposed the free spirals to be rare, as compared with those having an axis; but later study, especially in the expedition of 1895, led us to a realization of the fact that, out of all examined, very few had an axis.

All forms are constant in that they are made up of a tangle, or aggregate, or colony of plant filaments, which in section show an identical structure.

Though we were impressed at the outset by size and symmetry, maturer study showed us humbler forms and less regal designs, which, nevertheless, were fraught with equal or greater interest and significance. Accordingly, in the light of present progress in the work of investigation, it would be in line with the logical order of things to survey the group from the lower or simpler forms up to the more complex.

In this paper no attempt will be made, as in a former one, to designate various forms by tentative names, but, until such time as their exact nature and affinities can be worked out, they will simply be called by the familiar, common-place designations bestowed upon them as they were dug out by the students of my party.

THE SIMPLEST FORM OF DAEMONELIX—A FIBRE.

The simplest expression of Daemonelix, as it seems to me, is to be found in the tubules seen threading their way in all directions through the sand rock. (Plate I., Fig 2.) Often delicate tracings of these are found on the fossils of the region. (Plate I., Figs 1, 3, 4, 5.)

Fig 2.

Fig. 2.—A Daemonelix "Fibre" found growing on the tibia of a Rhinoceros. This is a hollow branching tubule, such as is found growing to and around bones and through the sand rock; found in the lowest beds through to the highest, and supposed to be the simplest form of the Daemonelix series. Reduced one-half.

This tubule may consist of a fibre; or this by branching may have dimensions in two directions, and thus veil the fossil with its meshes. Or, again, it may have growth in three di-

Plate I.

DAEMONELIX TUBULES.

Fig. 1. A Daemonelix tubule, found growing on a tibia (Rhinoceros).
Fig. 2. Daemouelix tubules in sand rock.
Fig. 3. Jaw partly grown over with Daemonelix tubules. (Section of, see Fig. 8). Length of jaw, 25 cm.
Fig. 4. Scapula from Daemonelix Beds partly grown over with Daemonelix tubules.
Fig. 5. Femur (Rhinoceros) grown over with Daemonelix tubules.
Fig. 6. Toe bone (Rhinoceros) etched by Daemonelix tubules.
Fig. 7. Thoracic vertebra (Rhinoceros) etched by Daemonelix tubles. Greatly reduced.
Fig. 8. Microscopic section of tubule from Fig. 3. Centimeter scale applies to Figs. 1, 2, 3, 4, 5, 6.

From Specimens in the Morrill Geological Collections, State University.]

mensions, and thus completely enclose the form on which the simple plant began. (Plate XV.) We have each and all of these conditions represented in our collections.

It is a matter of common occurrence to find fossil bones in these beds beautifully and distinctly etched by the growing fibres of those days. (Plate I., figs 6, 7.) We have examined these fibres microscopically, with the unvarying result that all show distinct plant tissue. We have ground sections of isolated fibres picked out of the sand rock, and likewise those picked from the fossils on which they originally grew. We have also cut sections from those fibres which were gathered together as plant aggregates or colonies. In each and every case there has been the same display of simple parenchymatous tissue. (See Plate XVI., figs 1, 2, 3.)

DAEMONELIX CAKES.

The next simplest form is that which, for lack of a better name, the students of our party dubbed "Daemonelix Cakes." (See Plate II.)

They are, in fact, not so unlike camp griddle-cakes in size and thickness, and likewise in the manner in which they, batter-like, threw out irregularly in all directions pseudopodia-like lobes.

Fig. 3.

Fig. 3.—Daemonelix "Cake." An aggregation of fibres forming a cake-like cluster. Reduced one-half. Found only in the lower beds.

These occur very abundantly throughout a layer six to eight meters in thickness, at a depth of fifty to sixty meters below the regular Daemonelix beds. Neither below this horizon, nor above it, are they found. Their form is commonly circular,

Plate II.

DAEMONELIX "CAKES."

Figs. 1 to 9 inclusive.—Various sizes and forms of Daemonelix cakes.
Figs. 3 and 4.—Horizontal and vertical sections respectively.
Figs. 7, 8, and 9.—Bottom, side, and top views of a Daemonelix cake.
Fig. 10.—A microscopic section.
Fig. 11.—A cluster of Daemonelix "Cakes," reduced one-eighth.

[From the Morrill Geological Collection, State Museum.]

though often lobed, as if the plant had thrown out fibrous aggregates in various directions. In thickness they vary from one centimeter and a half to a half centimeter, the average thickness being about one centimeter. The bottoms and tops of these lie in nearly horizontal planes, just as if conforming to the bed of the Pliocene lake on which they grew. May we not conceive of this ancient filamentous alga as growing in a closely tangled colony, flat on the sand-bars of this lake? Possibly, as sedimentation went on, the mat of fibres was covered with fine, clean sand, choking out the original stock, perhaps, but allowing certain surviving fibres to grow upward around the edges and center, to form again a similar mat at another stage above the first one.

Thus would be formed a layer of mat below and above, and a core of sand between, traversed by innumerable fibres. However faulty or fanciful this suggestion may be, it is borne out somewhat by the specimens themselves when seen in section. Thus, we invariably find a conspicuous array of fibres below and above, inclosing a core of sand marked everywhere by scattered fibres. That is, in cross sections we find a periphery of tubules, quite distinct to the eye, surrounding a partly structureless matrix. The writer as well as the reader is not unmindful of the fact that this presupposes very rapid sedimentation, such as would all but preclude the probability of plant life. Notwithstanding all this, whether probable or improbable, whether possible or impossible, the plant is there, manifest to the eye, and unmistakable under the glass.

The Daemonelix cakes are often solitary, but quite as often in pairs or clusters. In the latter case it is interesting to note that they rise one above the other in steps or terraces, the plane of each being coincident with the bedding plane of the surrounding rock. (Plate II., Fig. 11.)

Possibly, as sedimentation went forward, the original "cake" was covered, with the exception of a vigorous offshoot or so, which grew upward, and then under favorable circumstances

spread out again as before, but on a level above that of the first, and so on for each succeeding layer.

Be this as it may, the author is led to offer this as a possible explanation, from the fact that examination always shows a distinct organic connection between the lower and the upper members of such a group or cluster of cakes.

Superficially, the structure of Daemonelix cakes is identical with that of all the other forms of this strange series. A minuter study shows precisely the same tissue found in the simple isolated tubules, as well as in the more complex forms. We have cut sections from every part of many individual specimens of the so-called Daemonelix cakes, with the result that the cellular structure, perfectly preserved in some slides, imperfectly so in others, was lacking in none. This evidence furnished by the microscope may yet amount to demonstration. (Plate XVI., Fig. 3.)

Let it be mentioned again that the Daemonelix cakes are confined to their particular horizon, some six or eight meters thick, and as far as observation goes do not occur above or below this level, unless certain similar, though reduced and attenuated, forms found above are their direct survivors.

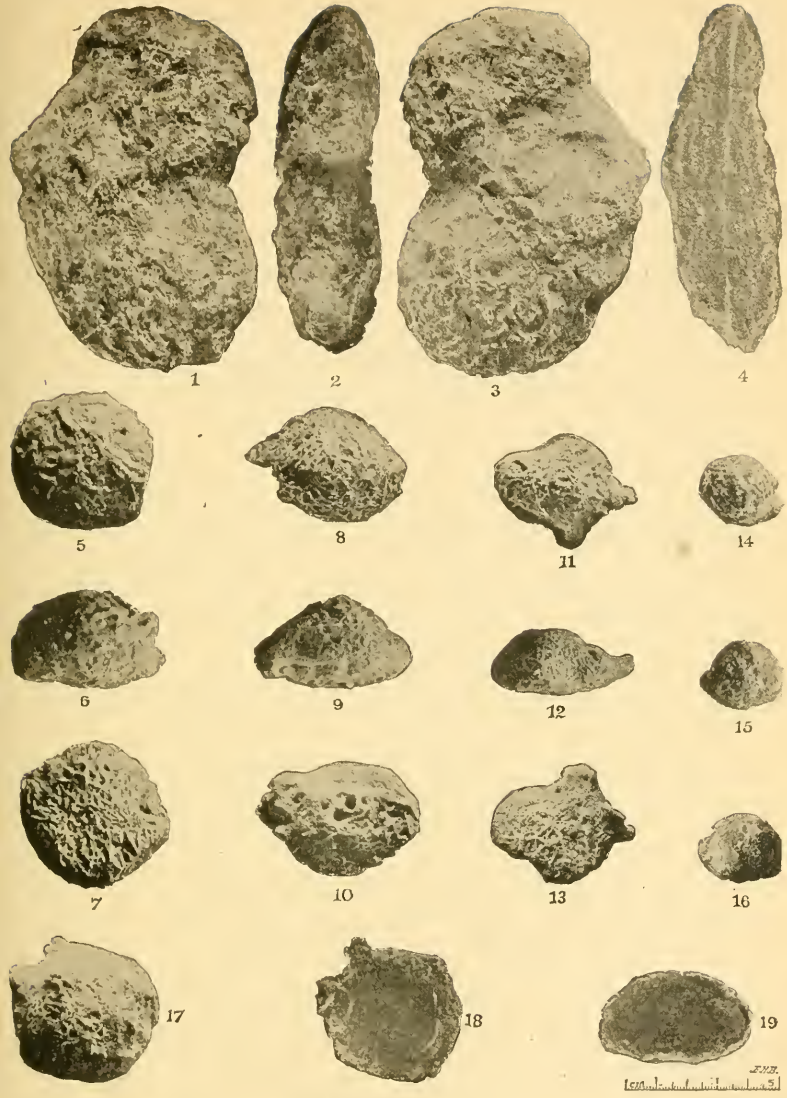
DAEMONELIX BALLS.

Immediately overlying the Daemonelix cakes, we find a form very similar in point of size, appearance, and structure,

Fig. 4.

Fig. 4.—Daemonelix "Balls." Reduced one-half. Found just above the Daemonelix cakes.

Plate III.



DAEMONELIX "BALLS."

Figs. 1, 2, 3, 4.—Top, side, bottom, and vertical section respectively of a Daemonelix ball.
Figs. 5, 6, 7.—Top, side, bottom.
Figs. 8, 9, 10.—Top, side, bottom.
Figs. 11, 12, 13.—Top, side, bottom.
Figs. 14, 15, 16.—Top, side, bottom.
Figs. 17, 18, 19.—Top view, horizontal and vertical sections.
The centimeter scale applies to all.

[From the collections of the Hon. Charles H. Morrill, State Museum.]

These our students christened Daemonelix balls, because of a real or fancied resemblance to the old-fashioned New England codfish ball. (Plate III.) Impelled by that hunger which is engendered by outdoor life, they drew the names they needed somewhat freely from the camp larder. However, they will serve the present purpose quite as well as the formal names yet to be proposed. Though so like the Daemonelix cakes in all essentials, yet the Daemonelix balls differ from them distinctly, in that they are smaller in circumference and more regular and uniform in size; in that they occur isolated and alone, almost never in groups; and in that there is a slight variation in form.

The so-called balls are flat on the lower side, as if conforming to the bed on which they grew, while the upper side is noticeably convex. In this we see simply a contraction of length and breadth, and an extension of height. Though subject to immediate contradiction, the author cannot refrain from cherishing and presenting the fond delusion that possibly this is but prophetic of the vertical habit found in all succeeding forms.

Just as in the case of the "cakes," we find, in the so-called "balls," the surface covered with tangled organic tubules surrounding a core of sand, penetrated frequently by tubules. Microscopic examinations of sections cut from all kinds and conditions of these show precisely the structure and tissue already described. (See Plate XVII., Fig. 1.)

This particular form, though confined apparently to a bed but six to eight meters in depth, was of very frequent occurrence. Many were weathered out and readily procured, while others were in place. They are not water-worn fragments of Daemonelix proper. Out of the hundreds seen, numerous examples were selected so as to represent all conditions of size and shape. At Eagle Crag all the conditions are favorable for observing a deep section of the rock of the place, because of the canyon walls.

DAEMONELIX CIGARS, OR FINGERS.

Immediately above the last-named horizon occurs a much more interesting and complex form, called by my party Daemonelix Cigars or Fingers; and as they lay at our feet, weathered out in great numbers, they resembled cigars as much as anything to which they could be likened. (Plate IV.)

Fig. 5.

Fig. 5.—Daemonelix "Cigar" or "Finger," tip end. Reduced one-half. These occur next above the Daemonelix Balls and extend well through the Daemonelix beds, but apparently not quite to the top. Vertical and somewhat spiral in habit. Length, from a few centimeters to one meter.

These have acquired a pronounced vertical habit, and a noticeable tendency to the spiral form. Unlike the two preceding forms, the Daemonelix cigar is not confined so strictly to a particular horizon, but is found in increasing numbers, from its first appearance, up to the middle of the regular Daemonelix beds, and in diminishing numbers thence to the topmost beds. Sometimes they branch loosely, but more commonly they do not. We have measured some specimens which exceeded a meter in length, although the average specimen is scarcely one-third as long, while the fragments seen everywhere are about the size and shape of the ordinary cigar.

If one peculiarity of these Daemonelix cigars is more inexplicable than another, it is the fact that the ends of all branches, and the upper and lower ends of the trunk itself, terminate, as nearly as the author can learn, in blunted rounded points. Who can say, then, which is top and which is bottom, or whether they grew upward or downward? Furthermore, the heaviest and best preserved structure caps these ends, just as if they

were the active, growing portion—as one would expect—while the part behind was more or less decomposed. (See plate IV., Figs. 12 to 17.) Can these frail forms which show neither exit nor entrance, which have all ends capped and sealed, be burrows?

Often individual cigars or fingers appear to be loosely matted together, just as if there had been originally some organic connection, through fibres passing from one to the other. Commonly they present a regular outline, a more or less spiral form, and a smooth surface of closely tangled fibres. In many instances we have found these "cigars" growing out from the various parts of the Devil's Corkscrews. Either they were an integral part of them or were fused with them. (See Plate VIII., Figs. 1, 2.) One kind, possibly a different species or variety, has a decidedly corrugated surface, and each corrugation which goes to make up the main trunk seems, like the whorl of which it is a part, to be composed of fibres surrounding a core of sand. It may be likened, perhaps, to the component strands of a hemp rope, which consist of twisted fibers as much as does the rope itself. (Plate IV., Fig. 11.) This same effect is often noticed in the surface of the great "fossil twisters" themselves.

Still another variety presents itself, one whose surface may be described as warty or nodose. (Plate IV. Figs. 7, 8, 9, 10.) Aside from these superficial variations, there are no differences that the author can announce at present.

Numerous figures of all these are substituted for verbal description.

Superficially they are characterized by the same fibrous mat surrounding the same core of sand which has already been mentioned in connection with other forms. Microscopically they show precisely the same tissue which is common to the entire Daemonelix series. (Plate IV., Figs. 18, 19; XVI., Fig. 5*a*.)

Plate IV.

DAEMONELIX "CIGARS."

Figs. 1 to 6 inclusive.—Portions of Daemonelix cigars as ordinarily found.

Figs. 7, 8, 9, 10.—A nodose variety.

Fig. 11.—A very corrugated Daemonelix cigar.

Figs. 12 to 17 inclusive.—Daemonelix cigars in section.

Figs. 18 and 19.—Respectively cross and longitudinal sections of tubules of Daemonelix cigars.

Centimeter scale applies to all save micro section.

[From the collections of the Hon. Charles H. Morrill, State Museum.]

DAEMONELIX IRREGULAR.

On ascending the canyon, we come next to a form which we called "Daemonelix Irregular" in contradistinction to the Daemonelix regular found higher up in the beds. (Plate V.)

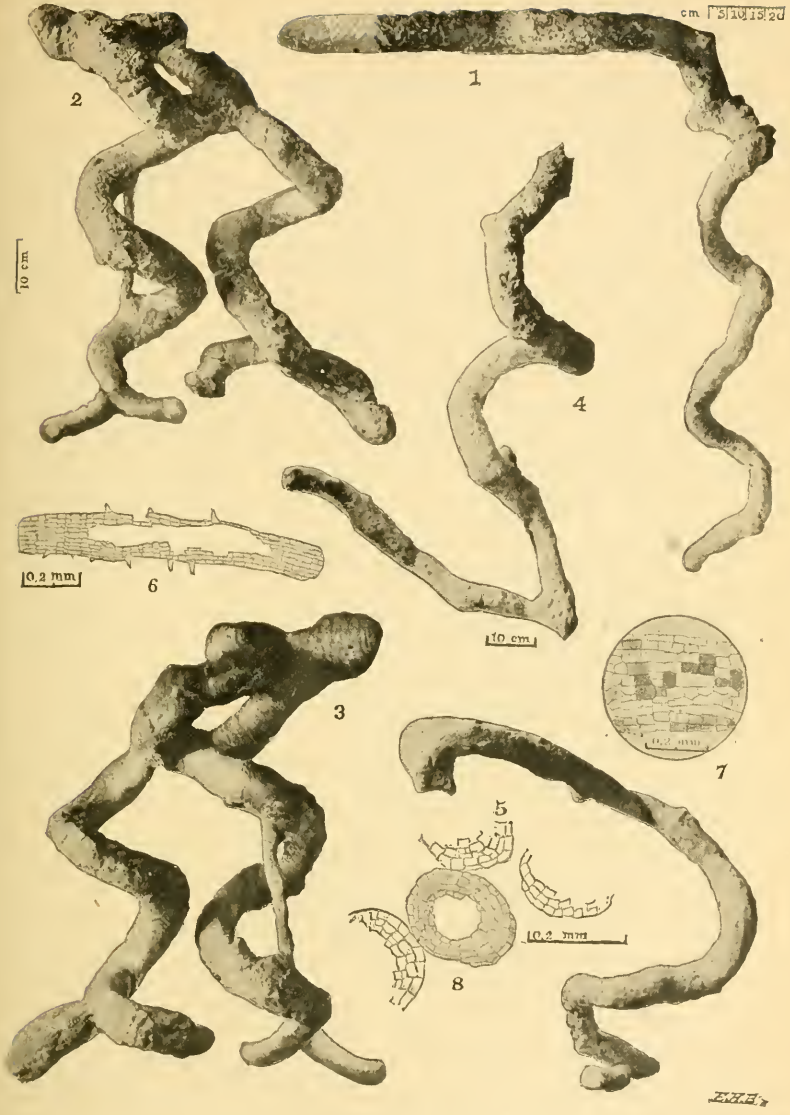
This particular horizon is distinctly characterized by the irregular twisters, of which no two seem to be alike, and yet there is a unity of plan and structure running through them all. They are slender, branching, and straggling; distinctly vertical in habit, and more or less completely spiral in form.

Fig. 6. Fig. 7. Fig. 8. Fig. 9. Fig. 10.

Figs. 6 to 10 inclusive, various forms of Daemonelix Irregular, middle beds. Fig. 6 is complete, and Fig. 10 nearly so—a small section near the upper end having rotted away. Figs. 7, 8, 9 represent others of varying size, but incomplete, an unknown amount having been weathered off the top of each. Fig. 6 one meter high, Fig. 10 nearly two meters high.

Unfortunately the collector generally finds his fossils by the exposure on the surface of some part or extremity, which may have suffered sadly from the elements. Thus it happens that portions are commonly missing, and it may be stated here that of all the specimens noted, but one or two complete ones were secured. Usually the top is weathered off, and the exact form of the specimen left in doubt. However, could extensive excavations be made on this level, there is no apparent limit to the number of complete specimens of this type which might be procured. As an example of this, Fig. 2, Plate V., may be

Plate V.



IRREGULAR DAEMONELIX.

Fig. 1.—Complete specimen save one small section. (For close view showing surface structure see Plate XI., Fig 2.)

Figs. 2 and 3.—Two views of a complete specimen. (Probably two fused together.)

Figs. 4 and 5.—Nearly complete specimens. Tops of each weathered off.

Figs. 6, 7, and 8.—Microscopic sections.

[From specimens in the Morrill Geological Collection, State Museum.]

cited; it is complete throughout, having been dug out of an unexposed bank.

Here two individuals have apparently grown in such proximity as to have fused together; a phenomenon of very common occurrence in every form of the Daemonelix series.

Another specimen shown in Fig. 1, Plate V., is complete, with the exception of one weathered section near the upper end, which had crumbled past recovery.

Here, as in the cigars, we find all the terminations blunt and rounded. Unless the Irregular Twisters are evolved Cigars, and they in turn, evolved Balls and Cakes, the author can offer no suggestion whatever in explanation.

These, as well as all the preceding forms, offer difficulties not to be explained away by those who account for the occurrence of these anomalous fossils on the ground that they are but abandoned burrows.

It is apparent at a glance that each and all of these Irregular Twisters increase in size from bottom to top, a character in common with Daemonelix proper.

In height the Irregular Twisters range from one-half to two meters; in diameter from two or three centimeters at the bottom to fifteen or twenty at the top.

There is a rough similarity between the Daemonelix proper and these, their possible prototypes. This is especially noticeable in Fig. 4, Plate V., where the vertical spiral of the one finds its homologue in that of the other, and the transverse piece or "rhizome" seems homologous to that in Daemonelix proper. In vertical range they have been traced to the middle of the Daemonelix beds.

At the very top of this particular horizon one specimen which may or may not be a transition from the Irregular to the Regular Daemonelix, was found by Dr. F. C. Kenyon, a member of my party in 1892. In Fig. 11, which is a reproduction of Mr. Kenyon's drawing made in my notebook, it will

Fig. 11.—A supposed transitional form from Daemonelix Irregular to Daemonelix Regular. From a sketch by Dr. F. C. Kenyon.

be seen that the Irregular Daemonelix below ends in the Regular Daemonelix above. Possibly this is a transitional form.

Their gross structure varies in no important respect from the preceding form save that the tubules, which are rather minute below, seem to grow more robust and distinct above. Their minute structure is identical with that of preceding and succeeding forms. (Plate V., Figs. 6, 7, 8; Plate XVI., Fig. 5b.)

DAEMONELIX PROPER.

The culmination of the entire group is in the "Devil's Corkscrew," or the fossil "Twisters" first seen and described.

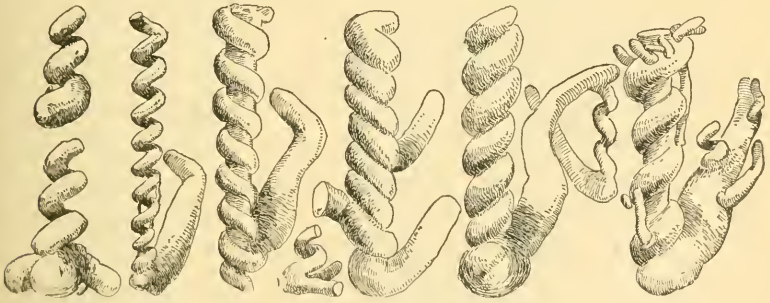


Fig. 12. Fig. 13. Fig. 14. Fig. 15. Fig. 16. Fig. 17. Fig. 18. Fig. 19.

Figs. 12 to 19 inclusive, Daemonelix Regular, upper beds.

Fig. 12.—Daemonelix without axis or spiral or transverse trunk, ending below in a simple enlargement. Fig. 13.—A similar form, ending below in three enlargements. Fig. 14.—Typical form of Daemonelix with a free spiral and transverse trunk or rhizome. Fig. 15.—Typical Daemonelix with axis and trunk, showing seven coils and a "button." Fig. 16.—A free spiral with two trunks. Fig. 17.—A large Daemonelix with three trunks. Fig. 18.—Double Daemonelix. "Twin Screws." (The one in front is large and right-handed; the one in the rear but half the size and left-handed.) Fig. 19.—A complex Daemonelix from the topmost beds on Pine ridge, near Squaw Canyon.

Plate VI.

Fig. 1.

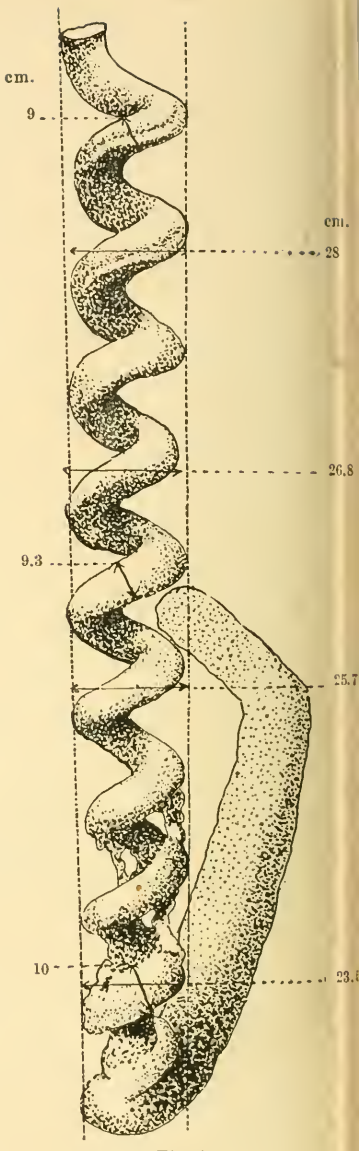


Fig. 2.

Fig. 1. Daemonelix without an axis. Typical form.
Fig. 2. Diagrammatic view of the same, giving measurements.

[From a specimen in the private collection of the author.]

Plate VII.

Fig. 1.

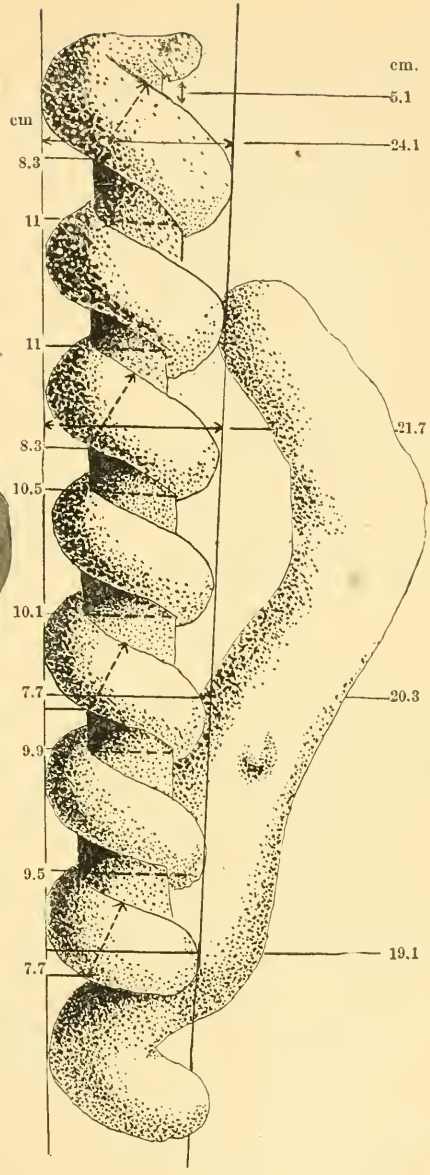


Fig. 2.

Fig. 1.—Daemonelix with an axis; typical form. Height 1.32 meters.
Fig. 2.—A diagrammatic view of the same, giving measurements.

[From a specimen in the collection of the Hon. Charles H. Morrill, State Museum.]

Their forms are magnificent ; their symmetry perfect ; their organization beyond my comprehension. They are the conspicuous objects of the landscape.

In the vertical section exposed in the canyon at Eagle Crag, the range of Daemonelix proper is about forty to fifty meters. Those at the bottom are distinctly smaller in size, and are constructed on a more regular and uniform plan. Those at the extreme top are larger in size, and are subject to sudden and rather startling variations. At the bottom one finds similarity and uniformity ; at the top, dissimilarity and variation. However similar or diverse, they are subject to one rule which has no known exception ; they are invariably upright.

Almost invariably one or more transverse trunks or "rhizomes" extend outward and upward obliquely from the lowest or the lower whirls. There are two prominent forms: one with an axis, one without; both of them marvels of precision and exactness of build. Besides the constancy and accuracy of pitch of the screw, there comes an element of great complexity; the helix tapers from bottom to top with such nicety that this organized instrument of precision would have to be sensitive to differences not exceeding one millimeter for every 90° in its course around the axis.

Without attempting further description or discussion of this point, the author submits certain figures which he believes will carry out the foregoing idea by speaking tersely and emphatically for themselves. (See Plates VI. and VII.)

What naturalist will grant that any burrowing animal could display such phenomenal exactness!

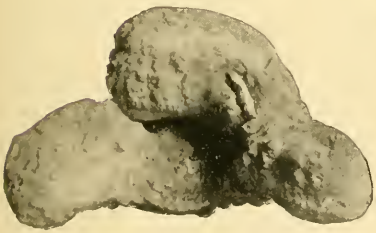
Strict geometricians in nature are found among the plants and lower animals. The spiral forms, so perfectly wrought in these higher examples and less perfectly in the lower, seemingly must be the result of heliotropism on the individual

Plate VIII.

1

3

2



4

Fig. 1.—A form of Daemonelix without axis or transverse trunk.
Fig. 2.—Bottom view of same.
Fig. 3.—A large Daemonelix with three transverse trunks, as seen in the quarry, upper beds, near Squaw Canyon, Sioux Co., Neb.
Fig. 4.—An example of "Twin Screws" or double Daemonelix. The transverse trunk bears an ascending spiral at one end; a smaller descending one at the other. Middle beds, near Eagle Crag, Sioux Co , Neb.
[From specimens in the collections of the Hon. Charles H. Morrill, State Museum]

plant or fibres whose aggregation into a spiral colony constitutes the "Devil's Corkscrew."

The mind must be disabused of the idea that the whole fossil is one plant with bark, sap-wood, and heart-wood, such as one finds in a modern vine coiled about some axis. Instead it is, as the author believes, simply an aggregation of individual plant fibres twisting to the right or to the left without reference to any discoverable law.

Some are frail forms with sweeping spirals, others robust and with closely twisted coils. As in all the preceding forms, we find here a superficies of matted fibres surrounding a core penetrated frequently by tubules passing from wall to wall. Microscopically there is exact identity with all the forms mentioned herein. (Plate XVI., 6; XVII., 2; XVIII., 1, 2.) In the first sections ground, the author was so surprised at the perfection of the cellular structure and its admirable preservation, that he suggested the possibility of this being the section of a modern rootlet. That this is not so is shown by a series of more than one hundred sections prepared since.

We now have sections from every part of every form of the Daemonelix group. The microscopic observations herein are based on the study of numerous sections of each form. In no case is any argument based on a number less than six sections from a given variety. This is at least evidence that the inferences drawn from a sufficient number of sections may yet amount to conclusive proof, if that end has not already been attained.

This much is certain, that every well-cut section shows plant tissue. In Daemonelix, as in other fossils, there are varying degrees of perfection of preservation. Some are dense, compact, and stony, yielding excellent sections ; others are sandy, soft, and friable, yielding less satisfactory slides. But in the very worst the organic structure is unmistakable, while in the best it is admirable.

Plate IX.

FIG. 1

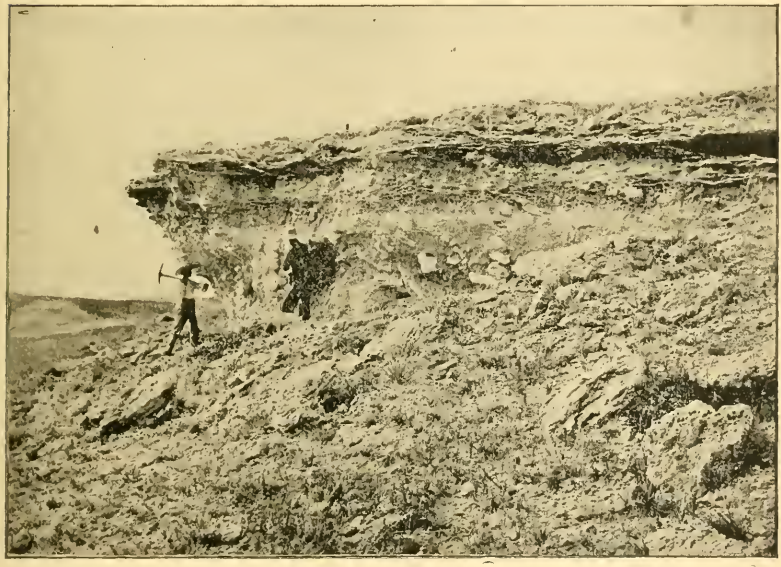


FIG. 2

Fig. 1.—A remarknble form of Daemonelix showing two ascending spirals, and numerous processes or spurs of different shapes and sizes. The spurs vary in length from 5 cm. to 45 cm., the average being 15 or 20 cm. In diameter they vary from 8 cm., the largest, through the average 4 or 5 cm. to about 8 mm. in the smallest. The surface structure of the ends of these spurs is fairly well represented by Figs. 4, 5, and 6, Plate XI.

Found and secured for the Morrill Expedition of 1895 by Mr. T. H. Marsland. Upper Daemonelix beds near Squaw Canyon, Sioux Co., Neb.

[From a Specimen in the Morrill Geological Collections, State Museum.]

Fig. 2.—Scene in Daemonelix Beds near Squaw Canyon showing numerous Daemonelix in place and students at work. The tubes which penetrate the sand rock in noticeably vertical lines, and the so-called Daemonelix Sheets may be seen extending horizontally just above the students' heads.

The recent discovery of a small locality in which all specimens are hard and flinty and perfectly preserved, and in which the missing parts of other specimens are present, promises to furnish final evidence as to the nature and affinities of these fossils when the spot has been sufficiently explored.

The top of the Daemonelix, whatever it may be, has not yet been found, due to the fact, perhaps, that our only means of finding these specimens is to hunt for their exposed and weathered parts which protrude from the surface.

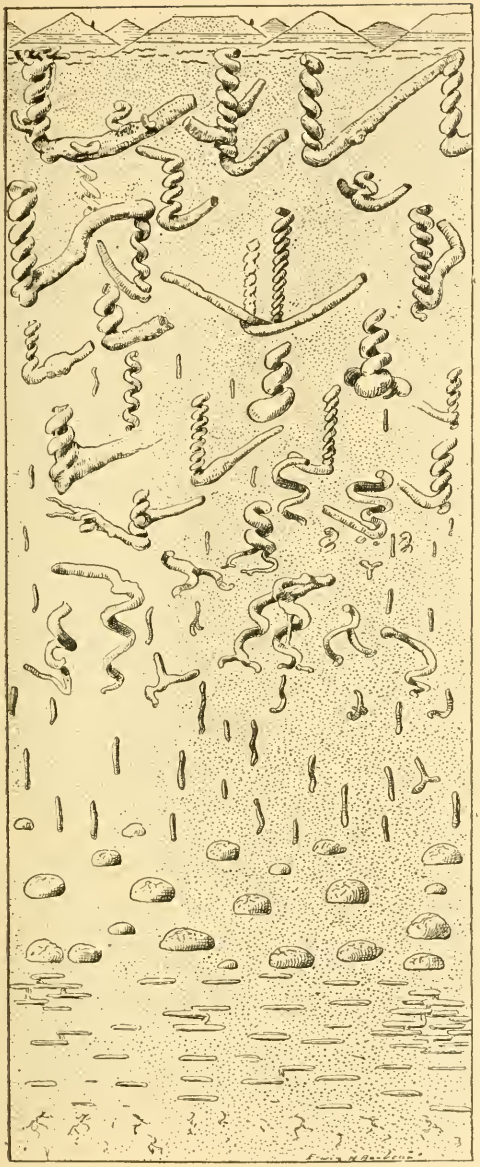
That considerable amounts have been weathered from the upper whirls of each specimen is attested by the disintegrated and broken fragments scattered there.

Inasmuch as Daemonelix Regular occurs at every level through a vertical range of thirty to forty meters, complete specimens can be found by sufficient digging, and doubtless will yet be found exposed on the surface. The matter of the so-called "Rhizome" is still in doubt. Some spirals, to our surprise, simply ended as if cut off, others ended in one, two, or three spherical enlargements. (Plate VIII., 1, 2.)

Sometimes we find one, two, or three of these trunks running out from one spiral. (Plate VIII., Fig. 3.) Sometimes one "rhizome" bears two ascending spirals, or, in other cases, one ascending spiral at one end and a descending one at the other. (Plate VIII., Fig. 4.) Though the contrary is the rule, yet an occasional specimen is found without the customary transverse trunk.

Daemonelix Regular varies in size to a surprising degree. We have found them in the bluffs along the Niobrara River a full meter in diameter, and hence too clumsy for transportation. From this they descend to those not exceeding ten to fifteen centimeters. The length of the ordinary "rhizome" is two to three meters, although we have seen all lengths, up to one finely preserved specimen, one-third meter in diameter and

Plate X.



60 to 70 meters.

Flinty Bed.

Daemonelix "Layers." (Page 32.)

Daemonelix Regular. 40 to 45 meters. (Plate VI. to IX., XIII., XIV. Page 19.)

Daemonelix Irregular. 6 to 8 meters. (Plate V. Page 16.)

Daemonelix "Cigars." Principal range 5 to 6 meters to near topmost beds. (Plate IV. Page 13.)

Daemonelix "Balls." 8 meters. (Plate III. Page 10.)

Daemonelix "Cakes." 8 meters. (Plate II. Page 7.)

Daemonelix "Fibres." (Plate I. Page 5.)

A diagram showing possible steps in the phylogeny of Daemonelix. (The several figures, though not drawn proportionately, are in their respective positions.)

The names bestowed by the students of the party are retained for the present. Depth of section about 60 to 70 meters (as measured by barometer).

ten meters in length, even after an indefinite amount had been weathered from each extremity.

One who stands face to face with this great array of fossils of prodigious size and intricacy and complexity of form can not conceive that they could ever have been a simple plant, notwithstanding the plant structure itself; but none the less the facts will undoubtedly stand. Much less can we conceive that they were "accidents" or "burrows." The "rhizome" is quite generally loosely S shaped, though often straight. Sometimes it is characterized by noticeable enlargements at either the upper or lower extremity, or in the middle. Sometimes long slim processes or spurs project from it.

In two distinct cases the expedition of 1895 found and secured complete specimens of "Twin Screws." That is, the transverse trunk bore two screws, one ascending, the other descending. (Plate VIII., Fig. 4.) The latter was smaller than the former, and had not the rhizome in each case been sadly decomposed it might have connected with still a third screw. One screw was right-handed, the other left-handed in each case. Had but one such example been found we might have counted it an accident, but finding altogether three such puts it almost out of the reach of chance. These specimens bring to mind forcibly a sketch by Dr. Frederick C. Kenyon, suggesting the possible method of reproduction in Daemonelix.[1] (Fig. 20.)

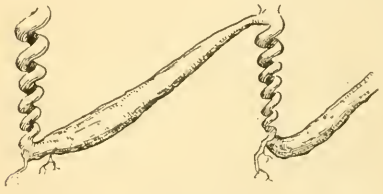
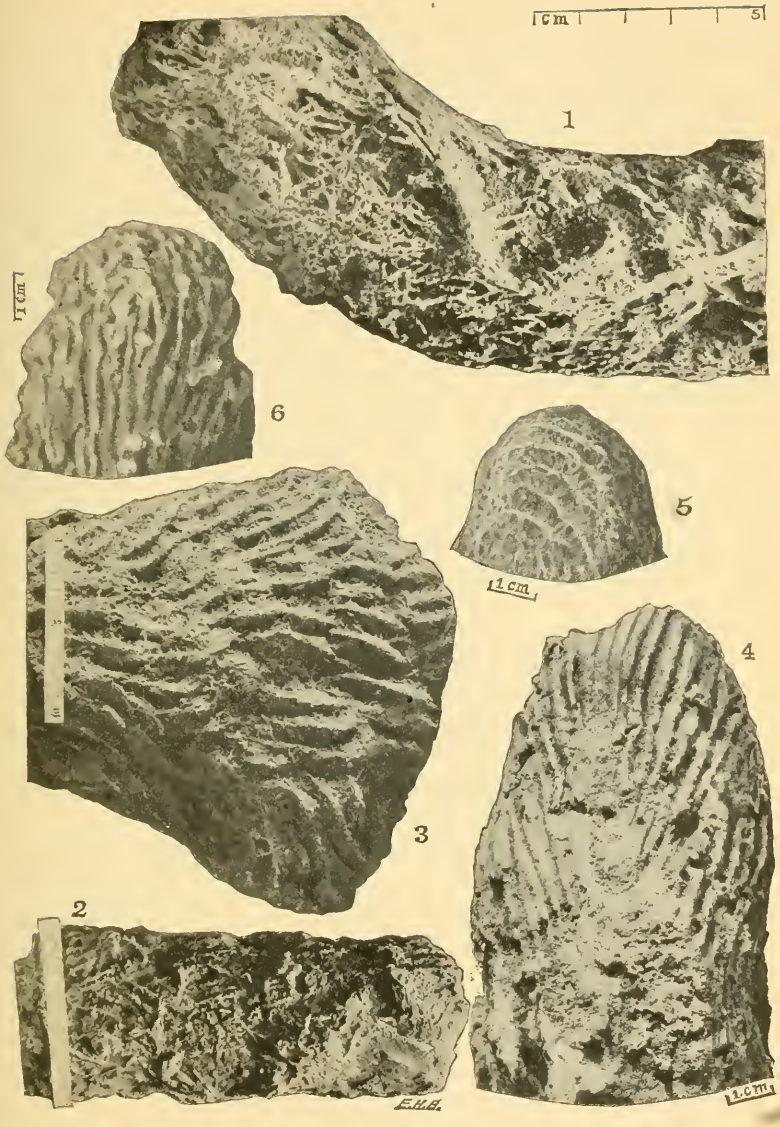


Fig. 20.—A sketch by Dr. F. C. Kenyon, suggesting the method of reproduction of Daemonelix.

As early as 1892, the author found and sketched a "twin screw." Two excellent specimens of this nature were added to our collection last summer. The finer of the two was found and secured by Mr. Jesse P. Rowe, assistant in the Department

[1] American Naturalist, March, 1893.

Plate XI.



SURFACE STRUCTURE OF IRREGULAR AND REGULAR DAEMONELIX.

Fig. 1.—Surface of a finely weathered specimen of irregular Daemonelix. Reduced ½.
Fig. 2.—Surface of irregular Daemonelix, shown in Plate V., Fig. 1.
Fig. 3.—Surface structure of rhizome of Daemonelix near base of spiral.
Figs. 4, 5, 6. Surface structure of ends of irregular Daemonelix and the spurs of regular Daemonelix. Called Daemonelix "Buds."

[From specimens in the collections of the Hon. Charles H. Morrill, State Museum.]

of Geology in the University of Nebraska. A noticeable feature was the fact that one fossil corkscrew was large, the other small, as may better be seen by examination of Fig. 18, and Plate VIII., Fig. 4. The smaller of the two may possibly have been the older. The top whirl may have sent out a transverse trunk, which eventually became a second screw. If this is so, then possibly we have here our first complete corkscrew. Later a specimen almost identically like this was found and procured for the expedition by George R. Wieland, of Pennsylvania State College, member of our expedition of 1895.

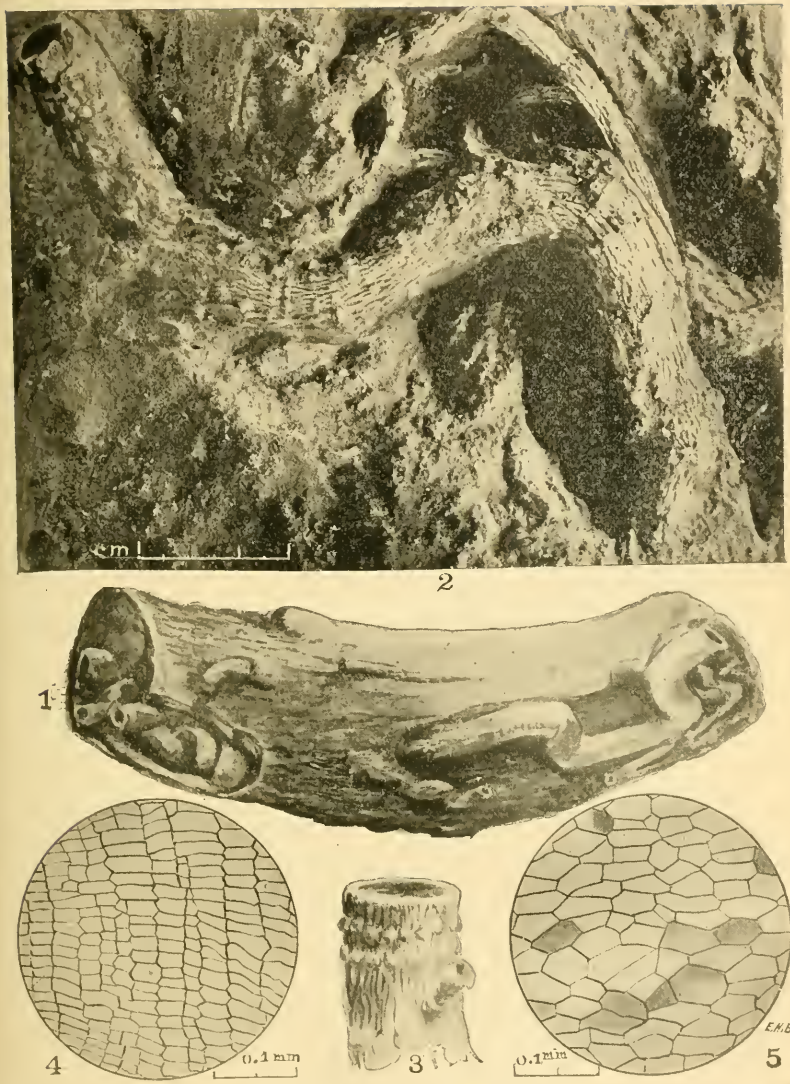
Near this, but at a higher level, he found a large screw with three transverse trunks. (Plate VIII., Fig. 3.) Near this same spot a very interesting, if not a remarkable and anomalous, form was found by Mr. T. H. Marsland, Professor of Chemistry in Belmont School, California, member of the Morrill Geological Expeditions of 1892 and 1895. This was a form with a spiral and axis, whose summit was surrounded by a veritable crown of processes of various sizes and lengths. (Fig. 19, Plate IX., Fig. 1.)

Below this crown occurred other processes either fused to the coils or standing out boldly from them. Several projected from the sides of the transverse trunk, from the middle of which rose a second small spiral without an axis.

Perhaps it is difficult or altogether impossible to conceive of such a plant. Still the characteristic tangle of fibres is there, and splendidly shown in every part of this unique form, and the microscope gives final evidence. Not content with eye determinations, the author has cut sections from this specimen, and from its larger and smaller spurs, all of which show its plant structure.

The whole region around Squaw Canyon must in former times have been an unbroken forest of spirals, interlocked in all directions by innumerable fibres. The loftiest beds at this place showed us, in addition to extremes of contrast and variation, a

Plate XII.



GREAT TUBES OF DAEMONELIX.

Fig. 1.—A piece of transverse trunk or "rhizome," with the lesser tubes and tubules cut away, showing the great tubes within. Left rhizome of Fig. 16.
Fig 2.—View of great tubes reduced about one-third, lesser tubules cut away.
Fig. 3.—One of the greater tubes, natural size, showing hollowness, thickness of wall, bark-like structure, and hollow branch.
Fig. 4.—Cross-section from the great tube, seen in Fig. 2.
Fig. 5.—Same, tangential section.

[From a specimen in the Morrill Geological Collection, State Museum.]

strange arrangement of corkscrew "sheets," or layers, as our party called them for lack of a better name. These strange Daemonelix sheets, though somewhat undulatory, were horizontally arranged one above the other. Masses of white tubules of about two to three millimeters in thickness connected these. The matted structure and the whole appearance of these sheets was so precisely like Daemonelix, and seemed to be so intimately associated with the highest corkscrews, that there was no doubt in the minds of the party that they were part and parcel of the same group. Microscopic sections have completely substantiated and verified this belief. A glance at Plate IX., Fig. 2, will serve a better purpose than attempted descriptions. To the eye it looked as if great mats of plant fibres floated off from and around the summits of closely crowded spirals, much as Spirogyra, or pond scum, floats in modern waters. This, according to our barometer, was the highest point to which we traced Daemonelix.

Several fossil corkscrews half exposed, and the Daemonelix "sheets" which seem related to them, may be seen in Plate IX., Fig. 2, which gives a fair idea of their appearance in the filed.

POSSIBLE STEPS IN THE PHYLOGENY OF DAEMONELIX.

As one ascends the canyon toward Eagle Crag, he has exposed to view a continuous and nearly vertical section (see Plate X.), the last thirty-five meters being an unbroken wall. Deep down in the canyon one fails to find a trace of Daemonelix. Ascending the canyon he comes successively upon Daemonelix Fibres, Daemonelix Cakes, Daemonelix Balls, Daemonelix Fingers, Daemonelix Irregular, and Daemonelix Regular, as shown in Plate X. Though too startling and sensational for acceptance, the author cannot but cherish the belief that this is a fundamental discovery in the study of Daemonelix.

Plate XIII.

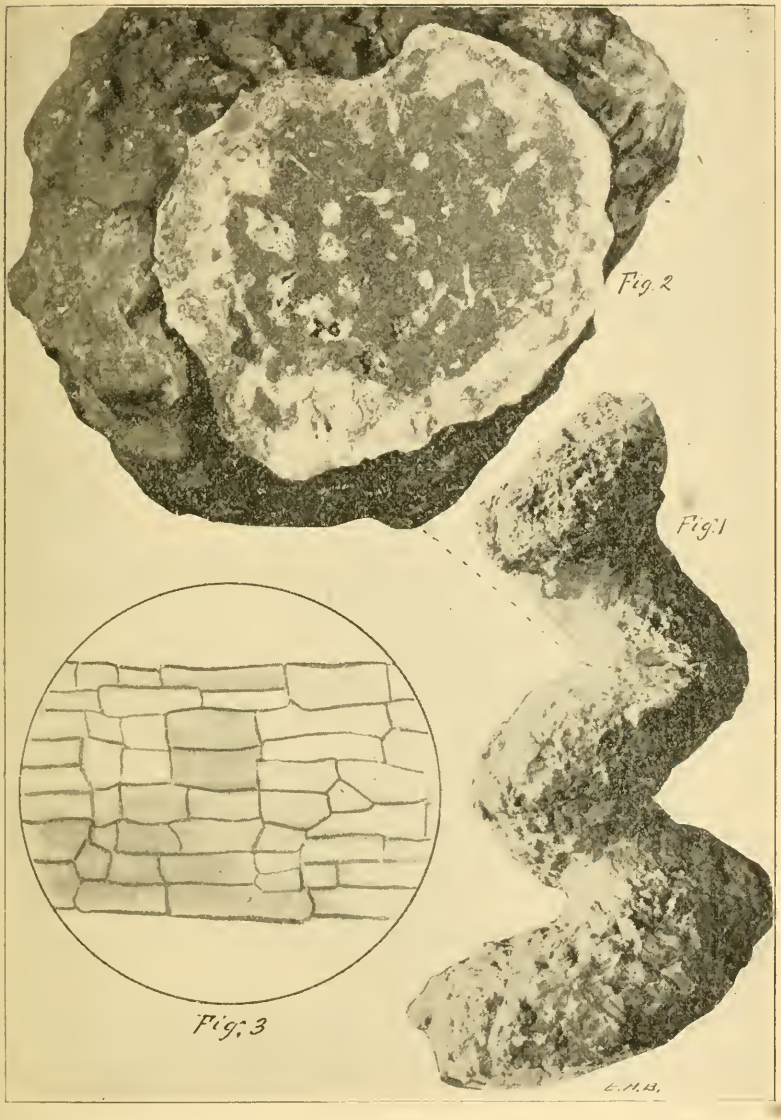


Fig 1.—Daemonelix as found weathered out.
Fig. 2.—Section across the same, as indicated by dotted line, showing white wall and lesser and greater tubes.
Fig. 3.—A section cut from the thickened wall of Fig. 2, showing cells in longitudinal section, drawn with camera lucida.

[From a specimen in the collection of the author.]

SUPERFICIAL STRUCTURE OF DAEMONELIX, IRREGULAR AND REGULAR.

Among the earlier collections from this region, fragments of certain slender forms, bluntly rounded, were constantly met with. But it long remained in doubt to what they belonged. They were characterized by such a distinct basket work of parallel or reticulated fibres as to almost bespeak their organic origin. (Plate XI., Figs. 4, 5, 6.)

DAEMONELIX "BUDS."

Now that they have been found in place, it appears that they are the ends of spurs, or processes of the Irregular or Regular Daemonelix. In spite of any faults of photography and the art of pictorial reproduction, the accompanying cuts give a very fair idea of their more important features. Those who still consider Daemonelix simply fossil burrows—a supposition contrary to reality—may count the parallel grooves and ridges as so many claw marks. If so, then they must grant that this fossilized burrow is all the more interesting from the fact that it had both animal and vegetable occupants. A delicate series of fibres of some acquatic plant follows and fills all these ridges and furrows.

That these fibres and filaments are really organic is apparent to the unaided eye, and proved by the glass. In section, they show the same simple tissue already observed in other forms.

The grosser structure of these is generally well defined, from the fact that they have been subject to continued weathering, which brings out the details and the delicate parts of fossils as no artificial means can do. The superficial structure of Daemonelix Irregular is still further shown in Figs. 1 and 2, Plate XI.; and that of Daemonelix Regular in Fig. 3,

Plate XIV.

Fig. 1. Portions of a large Daemonelix, showing gross structure, which consists of an interminable tangle of ramifying tubules. The general surface presents a corrugated appearance.

Fig. 2. A view of the surface structure of the above reduced about one-half.

Fig. 3. Section cut from the above, showing microscopic structure.

[From a specimen in the collections of the Hon. Charles H. Morrill, State Museum.

which is a portion of a "rhizome" near the base of the spiral.

THE TUBULES AND TUBES OF DAEMONELIX.

The tubules and tubes of Daemonelix have been mentioned repeatedly. They deserve especial consideration, and the next work to be done in the study of Daemonelix itself is the critical examination of these.

To the eye they are perfectly distinct as white, hollow tubules, scarcely a millimeter in diameter, branching and tangled together like a bunch of tow. They constitute the visible part of all forms of the Daemonelix group. Each filamentary tubule is looked upon as the plant proper, while their aggregation into a particular form constitutes the several varieties described herein.

We have seen them in the sand rock as solitary tubules, again as sheets, and in other places still as enormous bunches or masses; again in the forms which have already been considered. In each case this simple tubule seems to be the elemental and fundamental part.

But in addition to these there are tubes of all intermediate sizes up to twenty millimeters in diameter. These have caused the author increasing perplexity. In every specimen of the Devil's Corkscrew, from the first, they have been observed and reported as occurring in the interior of the great trunk, or rhizome, and as extending thence into the spiral. Unfortunately the tubes were replaced by variously colored gelatinous silicic acid and the structure lost. In badly preserved specimens even the space occupied by the tubes was lost, and great masses of this soft wax-like silica filled parts of trunk and spiral. In cases of fair preservation the structure of the great tubes is lost, but their identity as tubes preserved by a filling of silica. In finely preserved specimens, such as occur at a spot near Squaw Canyon, all the greater and lesser tubes

Plate XV.

A portion of a large Daemonelix enclosing the bones of a mammal. The femur, tibia, calcaneum, part of ilium, and a series of twelve or fourteen vertebrae are partly worked out. Length of femur, 33.5 cm.; length of tibia, 25.5 cm.; diameter of the Daemonelix, 20 cm.

[Specimen in the collection of the Hon. Charles H. Morrill, State Museum.]

are perfectly fossilized, are hollow and free from filling of silica, and their cellular structure faultlessly preserved.

The amount of this gelatinous silica seems to be inversely proportional to the perfection of preservation and fossilization. Its presence is probably due to the effects of organic decomposition of the vegetable tubes rather than to the animal excreta which some have proposed in explanation.

As may be seen in Plate XII., Figs. 1 and 2, the great tubes branch and wind about indefinitely throughout the interior of the rhizome. They are pure white, hard, and flinty. The surface is wrinkled, not unlike the bark of a vine, and is divided into fairly distinct joints by certain nodular prominences. The wall of such tubes is but a millimeter or two in thickness.

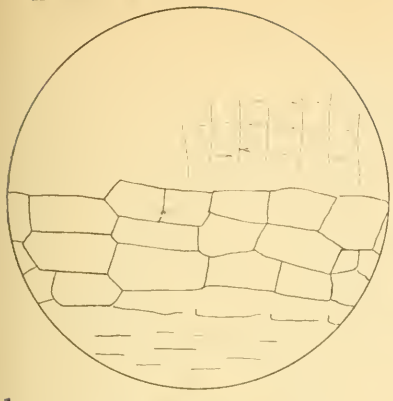
Microscopic sections from these tubes reveal a cellular structure so unmistakable, so defined and clean cut, as to be equalled only by a section from a living plant. (Plate XII., Figs. 4 and 5.) The tubes seem to branch repeatedly and to grow smaller. In order to study them it is necessary to cut away the rest of the Devil's Corkscrew, and some fine specimens must be sacrificed in their behalf.

Our present collection representing these perfectly preserved tubes comprises three large and two small specimens. Their study has been too recently begun to admit of exact description in this paper. However, this much is known: that they are vegetable; that they are cellular, and not vascular; that the body of the rhizome is occupied by them; all of which imposes additional burdens and taxes on the ingenuity of that long-suffering gopher which dug the burrow.

MICROSCOPIC STRUCTURE.

In studying the minuter structure of Daemonelix, many difficulties are to be overcome. The fossil and matrix are so soft and friable that sections can be cut only after the specimens have been thoroughly imbedded and filled interstitially

Plate XVI.



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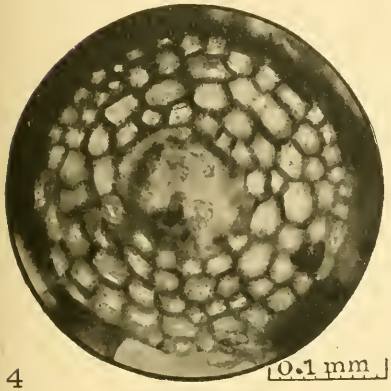

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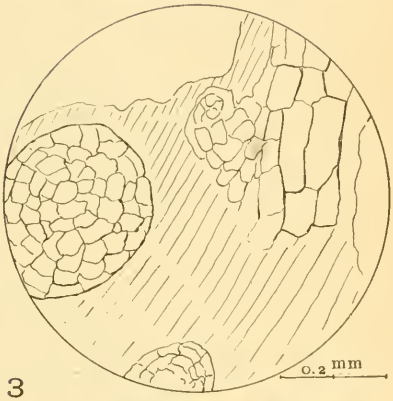

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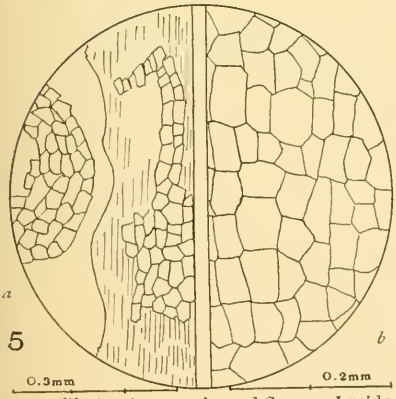

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6

Photomicrographs and Camera Lucida Sketches of Sections of Various Forms of the Daemonelix Series.

Fig. 1.—Daemonelix fibre from a jaw. Longitudinal section.
Fig. 2.—Daemonelix fibre from sand rock. Cross section.
Fig. 3.—Longitudinal and cross sections of fibres in Daemonelix cake.
Fig. 4.—Cross section of a fibre from Daemonelix regular.
Fig. 5.—(a) Section Daemonelix finger; (b) Daemonelix irregular.
Fig. 6.—Section of Daemonelix regular, cut through numerous fibres or tubules.

with hardened balsam. Even then the loose grains of fine sand constantly break in grinding, and often injure or destroy the section before it is as thin as this rather opaque substance must needs be. However, in the poorest and most opaque sections the cellular structure is unmistakable, while in the better sections it is clearly and sharply defined. It seems worthy of mention that out of a few more than one hundred sections which have already been ground, scarcely one failed to show the familiar cellular structure. Any failure in this is a failure in the preparation of the object. Every form of the whole Daemonelix series, from the simple fibre to the complex "Twisters," shows simple tissue under the glass. (See Plates XVI., XVII., XVIII.)

This fact the author seizes upon as all but absolute evidence of their organic origin. In longitudinal sections, average cells vary from thirty-five to fifty micromillimeters; in cross section they measure about ten micromillimeters.

THE BURROW THEORY.

No one who has seen Daemonelix pronounces its origin as other than organic, although it has been the prevailing conception that it is mechanically formed. That it is not a burrow of some Pliocene rodent the author has already tried to show.[1]

This much seems certain, that the Daemonelix fibres, cakes, balls, and cigars, could not have been burrows by any possible stretch of the imagination. Certainly the others were not. The fact that the deposit in which they occur is of distinctly aqueous origin throughout—and no gopher, ancient or modern, could have burrowed in water—and the fact that the structure of all alike is vegetable, seem sufficient proof without rehearsing the other arguments.

The finding of a rodent skeleton within the "rhizome" of

[1] *Is Daemonelix a Burrow?*—American Naturalist, June, 1895.

Plate XVII.

Fig. 1.—A photomicrograph of a section cut from the surface of a Daemonelix ball (See Figure 5, Plate III.) showing numerous tubules cut at various angles.

Fig. 2.—A photomicrograph of a section from a regular Daemonelix, showing two tubules, the upper one cut tangentially, the lower one obliquely.

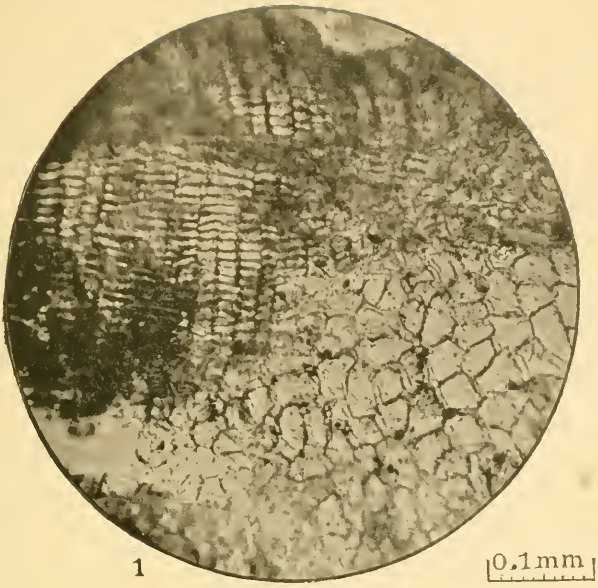
one specimen has greatly strengthened the burrow theory, yet the author now has a considerable number of mammalian bones and skeletons more or less completely overgrown by and inclosed in Daemonelix. One of these, shown in Plate XV., is part of the skeleton of a mammal inclosed in the expanded transverse trunk of Daemonelix. The trunk was but twenty centimeters in diameter—save where greatly expanded in its growth around the skeleton—while the skeleton was as large as that of a deer. It cannot be said that "we have in hand the builder of Daemonelix."

In several instances we have found the bones of the rhinoceros covered thus. No one would admit that such creatures burrowed. One set of rhinoceros bones found weathered out of a dense corkscrew bank near the well-known James Cook ranch, on the Niobrara river, showed all the bones etched in every direction, where the filamentous plant had traced its way over them. (Plate I., Figs. 6, 7.) Other rhinoceros bones found weathered out of a corkscrew bank near Eagle Crag, and those from Squaw Canyon, had the fibres still upon them, just as they grew originally on these submerged skeletons. (Plate I., Fig. 5.)

It is common enough to find skulls, jaws, teeth, limb bones, and parts of skeletons, covered more or less completely with Daemonelix fibres. The inference cannot be drawn that these are the bones of the original builders of the Devil's Corkscrew. Neither do the rodents' bones justify such an inference.

As instructor and acting state geologist, the author's time is divided between the instructional work of his department and the survey of the state. Still he hopes within a year or two at most to offer a formal and exact report on this anomalous group, whose phylogenitic history, when critically made out, promises to be as complete as that of any fossil ever known.

Plate XVIII.



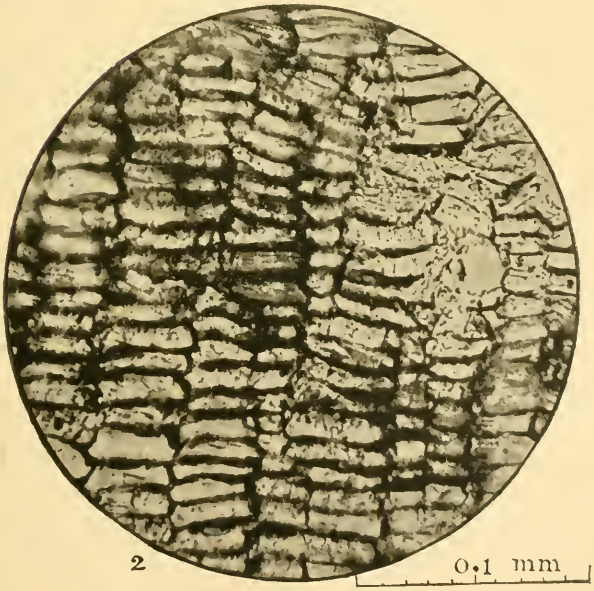


Fig. 1. A photomicrograph of a portion of the above greatly magnified.
Fig. 2. A photomicrograph of a portion of the above still more highly magnified.

PAPERS.

Notice of New Gigantic Fossils, Science, February 19, 1892, three figures.

Notes on a New Order of Gigantic Fossils, University Studies, The University of Nebraska, Volume I., No. 4, July, 1892, thirty-five pages, eighteen figures, six plates.

Additional Notes on the New Fossil Daemonelix, Its Mode of Occurrence, Its Gross and Minute Structure, University Studies, The University of Nebraska, Volume II., No. 1, July, 1894, thirty-two pages, one figure, twelve plates.

Is Daemonelix a burrow? A reply to Dr. Theodor Fuchs, The American Naturalist, Volume XXIX., June, 1895, thirteen pages, three figures, one plate.

Progress Made in the Study of Daemonelix, Abstract, Nebraska Academy of Science, publicatian V., 1894-95, five pages, eighteen figures.

History of the Discovery and Report of Progress Made in the Study of Daemonelix, Nebraska Academy of Science, January 3, 1896, University Studies, the University of Nebraska, Volume II., No. 2, January, 1897. (The present paper.)

Notes on the Chemical Composition of the Silicious Tubes of the Devil's Corkscrew, Daemonelix, Thomas Herbert Marsland, University Studies, the University of Nebraska, Vol. II., No. 2. (The present number.)

Remarks on Daemonelix or "Devil's Corkscrew" and Allied Fossils, by Joseph T. James, American Geologist, Vol. XV., No. 6, June, 1895. Pp. 337–342. Plates XI. (seven figures), Plates XII. (three figures), and one cut.

Ueber die Natur von Daemonelix, Barbour. *Annalen k. k. Naturhistorichen Hofmuseums*, Wein, 1893, pages 91 to 94, by Dr. Theodor Fuchs.

A Supposed New Order of Gigantic Fossils from Nebraska, Professor E. D. Cope, American Naturalist, June, 1893.

In the Region of the New Fossil, Daemonelix, Frederick C. Kenyon, American Naturalist, March, 1895. Fourteen pages, one cut, one plate.

II.—*Notes on the Chemical Composition of the Silicious Tubes of the Devil's Corkscrew, Daemonelix.*

By THOMAS HERBERT MARSLAND.

In "Notes on a New Order of Gigantic Fossils," by Erwin Hinckley Barbour, University Studies, Vol. 1, No. 4, the author says, in speaking of the structure of the corkscrew:—"In nearly all specimens the large tubes and cavities are filled with an interesting deposit of gelatinous silicic acid, of about the hardness and texture of paraffine or castile soap. * * * Its color ranges from aurora red to pink, blue, gray, and white, being highly opalescent in some cases and dendritic in others. On drying, the unbroken homogeneous mass is divided by shrinkage cracks, and, losing its color, becomes white."

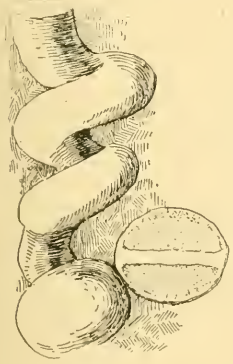


Fig. 1.

Fig. 1.—A specimen of Daemonelix partly dug out, secured by the writer for the Morrill Geological Expedition of 1892, in the bluffs of the Niobrara River. The figure to the right shows a section of the "rhizome" of an adjoining specimen which was destroyed in securing the first. The white horizontal bar is gelatinous silica. The stippled areas are partly structureless sand rock. Height 1.5 meters. (5 ft).

In June of 1892, while a member of the Morrill Geological Expedition of that year, the writer first saw and made observations on this interesting substance, and while on the expedition of 1895 began a careful study of it, with the hope of throwing more light on the identity of the Devil's Corkscrew.

A number of excellent specimens were obtained in the field. These were immediately placed in bottles, tightly corked, and sealed with beeswax, to preserve the specimens as nearly as possible in their natural condition.

This gelatinous silica occurs not only as a filling of the small, medium, and large tubes found running through the transverse trunk and the spiral of Daemonelix, but also in sheets and masses

in both parts. The irregular masses, however, seem to occur only in the badly decomposed specimens. When the corkscrew is well preserved, the gelatinous silica is either entirely wanting, or it occurs only in the tubes, which seem to be undoubtedly an integral part of Daemonelix. In some perfectly fossilized specimens, such as were found in one spot near Squaw Canyon, the wax-like silica is entirely wanting; the tubes are hollow, their gross and minute structure being perfectly preserved.

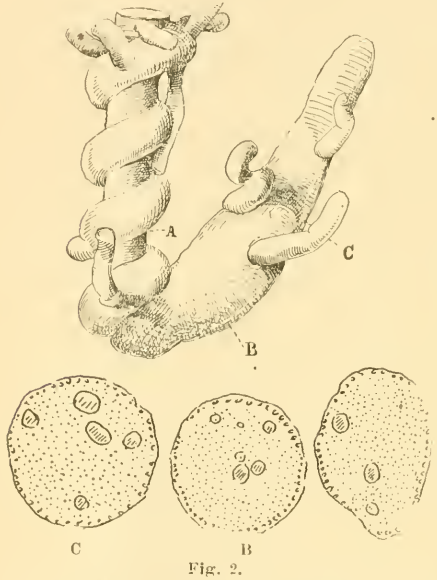


Fig. 2.

Fig. 2.—A singular form of Daemonelix procured by the writer for the Morrill Geologeni Expedition of 1895, on Pine Ridge, at Squaw Canyon. A, B, C, are sections from the points lettered A, B, and C, respectively, showing greater or lesser tubes filled with gelatinous silicic acid. The plant structure of these tubes is lost by decomposition. Height of spiral 1.23 meters (4 ft.); length of "rhizome" 2 meters (6.5 ft.).

The occurrence of this silica in these fossils may be looked upon as the result of the slow decomposition of the organic matter of the old Daemonelix, rather than as the product of animal waste, as has been claimed by some writers. The fact of its occurrence in such great quantities, its distribution throughout the whole of the body, and the fact that gelatinous silicic acid is naturally formed at the present day by the slow oozing of water through silicious material, must certainly weaken the claim that this silica is the product of animal refuse left in a gopher's burrow. Four characteristic specimens obtained in 1895 are as follows.

No. I. occurred in flat plates several inches in extent, and in irregularly shaped nodules, one-half to three-quarters inch in

thickness, in the lower part of a large horizontal trunk of a corkscrew, within a foot of the present surface. This specimen answers exactly to the excellent description quoted above. The dendritic portions perfectly resemble moss-agates, except for the pink and red tints.

No. II. occurred as a large irregular mass five or six inches across, and about two inches thick, near the top of a spiral, within six inches of the surface. In color it is creamy white, with a few minute specks of black manganese dioxide. In structure some parts are granular, other parts are dense and gelatinous, like hard wax. This specimen, being near the surface, was partly dehydrated.

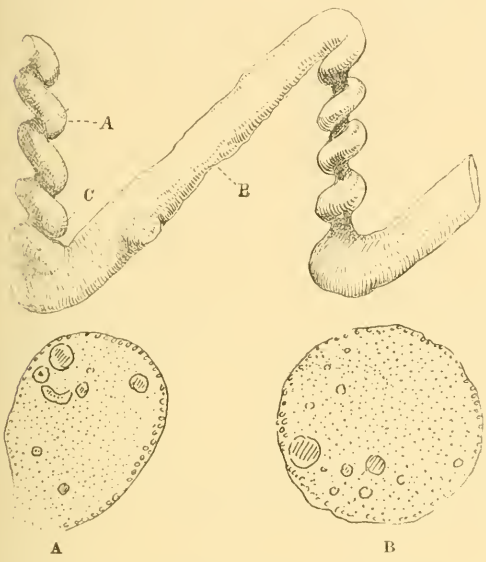


Fig. 3.

Fig. 3.—"Twin Screws" secured for the Morrill Geological Expedition of 1895, by Mr. George R. Wieland, near Squaw Canyon, Sioux County, Nebraska. A and B are sections from the fossil at the points A and B respectively, showing the great tubes filled with silicic acid. Analysis III. was made from material obtained from tubes at C. Height of spirals about 1.1 meters (1 ft. 4 in). Length of "rhizome" 2.77 meters (9 ft.); diameter of "rhizome" 25 cm. (10 in.).

No. III. occurred as a vertical cylindrical tube, one and a half inches in diameter, several inches long, at the lower end of the axis of a spiral, three feet below the surface. In color it is creamy white, with green tints, and quite translucent.

No. IV. Portions of a tube about three-eighths inch in diameter, about a foot long, taken from a weathered-out trunk of a corkscrew on the surface of the ground. Color, white.

The hardness of this material varies greatly. The fully

hydrated specimens crumble with the pressure of the fingers. When dried, some parts have a hardness about 1, others as high as 3 or 4. Specimen No. IV. will scratch fluorspar quite readily.

The specific gravity varies from 1.25 to 1.30 in the hydrated condition, and from 2.15 to 2.43 in the dehydrated condition.

Water is given off very rapidly at the ordinary temperature, and all can be driven off by continued heating at 105° C. Standing exposed to the air of a room for ten months, specimen No. I. retained 20.87 per cent of water. No. III., in a tightly corked but unsealed bottle, kept only 10.96 per cent of water. No. IV., exposed to the air for ten months, had 6.49 per cent of water. The results of ten analyses, ranging from 62.22 per cent to 71.30 per cent gave an average of 66.58 per cent of water in No. I. The other specimens were not kept fully hydrated.

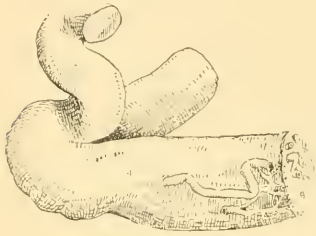


Fig. 4.

Fig. 4.—A curious form of Daemon elix, having two transverse trunks. Part of the end and side of one "rhizome" has been cut away, exposing the great, hollow tubes in the interior. In this case the great tubes are perfectly fossilized and are not filled with gelatinous silica, and their minute structure is perfectly preserved. Diameter of "rhizome" 25 cm. (10 in.).

The results of some of the complete analyses made are given in the subjoined tables. The iron found was in most cases entirely in the ferrous condition, though some samples showed ferric iron with the ferrous. It is all reported as ferrous. The manganese is in the manganous condition in the silicate, and in the peroxide condition in the dendrite. The condition of the iron indicates the presence of some reducing matter, probably organic.

From an examination of the tables, then, it may be seen that this interesting substance consists of silicates of iron, aluminum, manganese, calcium, and magnesium, with a large excess of free hydrous silicic acid and in some parts dendritic with manganese peroxide.

TABLE I.

Analyses of hydrated samples, water calculated by difference.

Analysis No.	1.	2.	3.	4.	5.
Specimen No.	I.	I.	I.	II.	II.
Water	62.22	66 21	64.67	51.17	41.69
Silica	28.03	23.85	26.72	43.87	49.10
Ferrous Oxide	0.65	0 39	1.19	0.32	0.10
Aluminium Oxide	4.63	4.91	3.39	2.28	6.78
Manganese Oxide			3.09	1.75	1.57
Manganese Dioxide	3.62	4 02			
Calcium Oxide	0.60	0.37	0.67	0 50	0.64
Magnesium Oxide	0.20	0.21	0.27	0.11	0.12
Totals	100.00	100.00	100.00	100.00	100.00

TABLE II.

Analyses of same samples, showing composition of dehydrated substances.

Analysis No.	1.	2.	3.	4.	5.
Specimen No.	I.	I	I.	II.	II.
Silica	74.18	70.58	75.80	89.94	84.20
Ferrous Oxide	1.72	1.16	3 36	0.66	0.17
Aluminium Oxide	12.39	14.64	9.51	4.67	11.63
Manganese Oxide			8.68	3.58	2.70
Manganese Dioxide	9.60	11.91			
Calcium Oxide	1.58	1.09	1.90	1.02	1.10
Magnesium Oxide	0.53	0.62	0.75	0.23	0.20
Totals	100.00	100.00	100.00	100.00	100.00

TABLE III.

Analyses of dehydrated samples.

Analysis No.	6.	7.	8.	9.	10.
Specimen No.	I	III.	III.	IV.	I
Silica	75.92	96.05	95.78	97.44	72.04
Ferrous Oxide	1.90	0.06	0.08	0.15	1.25
Aluminium Oxide	9.84	2.74	2.64	1.41	13.90
Manganese Oxide	4.89	0.64	0.54	trace	
Manganese Dioxide	5.00				10.41
Calcium Oxide	1.76	0.25	0.23	0.23	1.78
Magnesium Oxide	0.50	0 19	0.20	0.20	0.67
Totals	99.81	99.93	99.47	99.63	100.05

A record of the geological expeditions sent out by the University of Nebraska to the Daemonelix Beds of Sioux Co., and to the Bad Lands of Nebraska, South Dakota, and elsewhere.

1891. Private expedition by Erwin H. Barbour to the Daemonelix Beds, June 29, 1891; Bad Lands, July 1 to Aug. 10.

1892. Private expedition by Erwin H. Barbour to the Daemonelix Beds, May 1 to 10. The first annual Morrill Geological Expedition, June 20 to July 11 in the Daemonelix Beds. July 12 to August 8 in the Bad Lands of Nebraska and South Dakota.

MEMBERS.—H. H. Everett, F. C. Kenyon, T. H. Marsland, A. C. Morrill, J. H. Haines, Erwin H. Barbour in charge.

1893. The second annual Morrill Geological Expedition. Three weeks in the Rhinoceros Beds of Kansas, by T. H. Marsland and H. H. Everett. Two weeks in the Hat Creek Bad Lands by H. H. Everett. Flying trip to Daemonelix Beds by E. H. Barbour.

1894. The third annual Morrill Geological Expedition, June 15 to August 10. Big Bad Lands and Black Hills of South Dakota; August 11, 12, 13, Daemonelix Beds visited by E. H. Barbour.

MEMBERS.—U. G. Cornell, H. H. Everett, A. C. Morrill, E. L. Morrill, J. P. Rowe, Erwin H. Barbour in charge; Samuel McCormick, guide.

1895. The fourth annual Morrill Geological Expedition, June 18 to July 3, in the Daemonelix Beds. July 3 to August 6, in the Big Bad Lands and Black Hills region.

MEMBERS.—U. G. Cornell, H. H. Everett, F. G. Hall, G. H. Hall, E. F. King, T. H. Marsland, J. P. Rowe, G. R. Wieland, Erwin H. Barbour in charge; guides, William Gerlach, Francis Roush.

1896. The fifth annual Morrill Geological Expedition was confined chiefly to the Carboniferous of Nebraska; one week in the Devonian of New York; three weeks in the Silurian of Ohio and Indiana.

1897. Prospective.

Owing to the continued generosity of the Hon. Charles H. Morrill, funds are again available for an extensive expedition in the summer of 1897.

III.—*On the Continuity of Chance.*

By ELLERY W. DAVIS.

Need of a solid and unyielding foundation for the structure that the mathematicians of the day are rearing has caused a thorough overhauling of even the most elementary notions. Nothing escapes this penetrating criticism. Even supposed axioms are contradicted.

It is proved, for instance, that, after all, two parallel lines may meet if sufficiently produced; that through a given point many distinct parallels may be drawn to one and the same straight line; that a part may be equal to the whole; that to multiply the first of two quantities by the second may give a totally different result from that gotten by multiplying the second by the first; that lines may be perpendicular to themselves; that a closed hollow shell may be turned inside out without straining or breaking it.

Among the notions thus carefully examined are those of continuity and discontinuity. Of the one, a line is a simple example; of the other, a row of points. Nothing, at first blush, seems plainer than the distinction between them. It is when we come to consider discontinuity that almost merges into continuity that difficulty of definition presents itself Similar, I take it, is the difficulty a biologist has in distinguishing between plant and animal among the lower organisms. Let us study the solution of the mathematical problem.

Take, for a sample of continuity, an inch-long line. Divide the line into ten equal parts, marking the points of division; repeat this operation upon each of the parts, upon the parts of the parts. Imagine the operation continued indefinitely. Then there is marked upon the line every distance from either end that can be expressed by a decimal of an inch. To fix our ideas, suppose the measurement to be always from the left-

hand end. Not only is it true that all decimal distances are given, but it is also true that there is no distance whatever but can be indefinitely approximated to by these decimal distances. Take any distance you please, name any limit of accuracy you please, and within that limit of your distance we can find a decimal distance.

Do, then, all decimal distances form a continuum? No, says the mathematician, not if there be even a single distance that fails of complete and absolute representation by a decimal. No degree of approximation will suffice. Such a distance is the distance one-third. Every decimal distance, though there be millions on millions of figures used in its expression, is either larger or smaller than the distance one-third.

The mathematician amplifies this statement. "The distance divides," says he, "the collectivity all-decimal-distances into two sets, such that,

"1. Every distance in the one set is larger than every distance in the other.

"2. There is no smallest distance in the sets of larger ones.

"3. There is no largest distance in the set of smaller ones."

Every distance, however defined, which does this is a non-decimal distance, lying between the two sets it divides, and is the only distance lying between those sets. For, since it is hemmed in as closely as you please between them, there will always be between it and any other non-decimal distance some decimal distances. If some, there are an infinite number, because between any two decimals, howsoever close together they may be, there is an infinite number of other decimals.

Of such non-decimal distances there is no end. We can get them by dividing our thirds into thirds, these thirds of thirds into thirds, and so on forever. Or we can, in like manner, repeatedly divide into fifths or sevenths.

Suppose we thus use as divisors all prime numbers. All distances so gotten, save only when two and five are used, will

be non-decimal distances. No distance gotten by any divisor will be the same as a distance gotten by any other divisor. To each distance corresponds a distinct point, and between any two points due to a divisor, howsoever close together they may be, will lie an infinite number due to that same divisor, and also an infinite number due to each and every other divisor. Each of this infinite number of sets of points lies on the line distinct from every other set.

Do all these points taken together form a continuum? Not if we can find a single point at another distance. Such a point there is, distant one-sixth from the left hand end of our line. And it is only a sample of an infinity of points that are not yet marked.

Let us, then, use all composite numbers for divisors as we have used all prime numbers. We thus get all fractional distances.

And now have we a continuum? Or can still a distance be found at which no point of division lies? Euclid showed that there could. For example, the distance equal to the side of a square, of which our inch-long line is the diagonal, would be such.

To see this, suppose there were a fraction $a^1\ b$ that gave the distance; moreover, let it be in its lowest terms. Then twice the square of the fraction would be unity; *i. e.*, we should have

$$a^2 = 2\ b^2.$$

Then a^2 is an even number, and so a is even while b is odd. Suppose $a = 2c$, which gives

$$a^2 = 4c^2 \text{ and hence } 2c^2 = b.$$

Thus the odd number b is also even; or else, as stated above, the distance equal to the side of the square is not given by a fraction.

This is but a sample. We can, in fact, prove that between any two points at fractional distances, howsoever close together, can be put an infinite number at non-fractional distances.

Accordingly, we can say of these non-fractional distances on the line, that they divide all fractional distances into two sets, such that,

1. Every distance in the one set is larger than every distance in the other.
2. There is no smallest distance in the set of larger ones.
3. There is no largest distance in the set of smaller ones.

But perhaps some one thinks that, if we were to put points at distances given by all integral roots of fractional distances, we should get all distances—should have a continuum. At least he may think that, if we were to use all sums, differences, products, and ratios of these roots, we should have a continuum. Let him be undeceived. A more general expression than his would be, "root of an equation with rational co-efficients." It has in recent years been shown that there are numbers, of which our familiar friend π is a sample, that can be roots of no such equation. Such, too, is the base of natural logarithms, and all numbers that have rational natural logarithms. These are transcendents, and between any two other numbers, howsoever close together, there is an infinity of these—,an eight-fold infinity, says Herr Klein, but, as we shall show, an eight-fold or a million-fold infinity is merely an infinity.

Is there no law of distribution that gives us all distances on our line? Can there not at any rate be some combination of laws that will do it? The latter is only an apparent generalization. A combination of laws is, after all, only a law [M. La Place would symbolize all the relations of the universe by a single equation]; and what is the essence of law? Why, simply definition. It separates what comes under it from what does not. A law of positions on our line must, then, in order to be a law, fail to give some. It cannot at once single out and yet give all. To get all points, you must be allowed to take them where you please, at random, by chance. Thus, absolutely chance distribution must enter into any complete and perfect

distribution. (Compare G. Cantor, Acta Mathematica II., 308.)

Let the distribution be perfected; and, now, note what is true of any distance upon the line:

It divides all distances into two sets such, that

1. Every distance in the one set is larger than every distance in the other.

2. But now, either there is a smallest distance in the set of larger ones.

3. Or else there is a largest distance in the set of smaller ones.

The very distance we have taken must be held to belong to one or the other of our two sets. The row can, the line cannot, be divided by a point that is not of it. Such is Herr Dedekind's definition of a continuum.

But is there such a thing as a continuum? Can there be aught save discrete points? The very thought of discrete points in a row brings to mind something between them, else they could not be discrete. What is this something but line? What is it but continuous? Continuity is an hypothesis the mind is forced to make to explain discontinuity, for discontinuity of anything cannot exist save in a continuity of something. If lines, space, time, motion, thought, feeling, are not continuous, name the gap. The very attempt to do it brings to mind, and inevitably, something that bridges the gap. The discontinuous row of points is on a continuous line; the line, in a continuous something we call space; discontinuous moments are in a continuous time; to cease thinking, to cease feeling, is simply to think or feel otherwise than we did; there is throughout a persistence of something, self, soul, mind,—call it what you will.

Throughout all this discussion, we have preserved a one-to-one correspondence between numbers and points, to each point its own number and to each number its own point. Had the

line been a mile or a thousand miles long instead of one inch, the same correspondence could have been effected; nor would we have had to use any numbers save those between zero and one. But, if we can have a one-to-one correspondence between the numbers zero to one, and either all the points on the inch line or all those on the thousand-mile line, then also we can establish a one-to-one correspondence between the points of the two lines. This correspondence is easily shown geometrically. On the thousand-mile line as base construct a triangle and fit the inch line within the vertical angle. Imagine now a ray through the vertex to sweep over the two lines. It passes over every point of each and in every position joins a distinct pair of points on the two.

We can even establish a one-to-one correspondence between the points of an infinite line and our inch line. For, bend the inch line into a circle and let a tangent ray roll around it. As the ray rolls, it sweeps over the whole of any infinite line without the circle, and in each position joins a distinct pair of points on line and circle.

More than this. We can establish a one-to-one correspondence between the points on the inch line and all the points on an infinite number of infinite lines. To do this, bend the line into a spiral, taking half the line for the first turn, a quarter of the line for the second turn, and an eighth for the third, and so on. We get an infinite number of turns, and between the points of each and those of an infinite line a one-to-one correspondence. Let the infinite lines be successive parallels forming a continuous surface, and we have a one-to-one correspondence between the points of the inch and all the points of an infinitely extended plane.

Equally well can we have a one-to-one correspondence between the points on the inch line and all the points in infinite three-way space. In fact, each of the infinite number of turns of the spiral can itself be bent into an infinite number

of turns, each of these again so bent, and so on forever till the number of turns is as "infinitely infinite" as you please. The number of points must then be regarded as at least one degree more highly infinite, and therefore can be put into one-to-one correspondence with the points in infinite n-way space where n is as large as you please. Algebra makes all this even easier by saying, between all the values positive and real of x and x^n there is a one-to-one correspondence.

Does the conception of n-way space baffle and confuse you? Drop it. Take only three-way space, but endow each point with movement, with mass, with attraction and repulsion: nay, more; accompany every movement with sensation, thought, and feeling in all the infinite variety that we know. In brief, give life, give a soul to the universe. (If there be not a fourth dimension in space, there is I know not what high dimension in quality.) Add in the flow of time, and still the one-to-one correspondence can hold, to each point of the line corresponding a distinct point of space with distinct mass, motion, force, with distinct thought and feeling or absence of it, at a distinct instant of time; a history of the universe throughout all time written in the position of points on the inch line. Note, too, that the line itself is a part of that universe with which the correspondence is made. The problem of the position of points on the line becomes, in a way, the problem of science, to state in laws the relations of the positions, movements, and qualities of all this material and spiritual universe. There is even mathematical truth in that fragment of Tennyson's:

> "Flower in the crannied wall,
> I pluck you out of the crannies;—
> Hold you here, root and all, in my hand,
> Little flower—but if I could understand
> What you are, root and all, and all in all,
> I should know what God and man is."

Now on our line, remember no law could give all the points.

Continuity required that which was above and beyond all law; required chance.

So in our study of the universe, though we find a continual approximation to law, still there is always something that baffles us, something that no law seems to reach. Chance or something that we fail to distinguish from chance plays its part.

But what is chance? Can we give a definition?

Consider the familiar example of coin tossing. It is an even chance, we say, whether heads or tails shall turn up. Toss up ten coins. The chance is that about five heads and five tails will be shown. Notice the "about." Were the coins tossed a thousand times it would be remarkable if always five heads and five tails showed. We should suspect a cause for such regularity. Is causelessness, then, a mark of chance? Suppose irregularity, might not it also have a cause?

Consider again the single coin. Why do we say it is an even chance whether heads or tails turn up? Is this anything more than saying we don't know any reason why one rather than the other should turn up, a mere taking of the agnostic position? The turning up of heads is simply one of two possibilities, and we refuse to commit ourselves to a belief in the happening of this rather than of the other.

Take now the case of ten coins. Here there are eleven possibilities: all heads; nine heads, one tail; eight heads, two tails; and so on. Would our agnosticism require us to say that these possibilities were equally probable? To some it may. To the mathematician d'Alembert, all events, since they must either happen or not happen, seemed to have the probability one-half. But we need not be quite so ignorant. Plainly into our judgment of the chances should enter not only the possible number of happenings, but also the number of ways in which each is possible. Now all heads is possible in only one way; but nine heads, one tail is possible in

ten ways: for any one of the ten coins may be the one showing tail. So nine heads, one tail is ten times as probable as all heads.

The probabilities for the eleven different happenings are proportional to the number of ways respectively in which nothing, one thing, two things, ..., ten things can be picked out from ten things. These are also the coefficients in the expansion of a binomial to the tenth power; so that we can say that the probability that a heads, b tails $(a + b = 10)$ in tossing ten coins is proportional to the coefficient of $h^a t^b$ in the expansion of $(h+t)^{10}$. The sum of these coefficients is $(1+1)^{10}=1024$. So in 1024 throws, in the absence of further knowledge, we must regard as probable *about* as follows:

Heads	10	9	8	7	6	5	4	3	2	1	0
Tails	0	1	2	3	4	5	6	7	8	9	10
Throws	1	10	45	120	210	252	210	120	45	10	1

So the chances are only 252 in 1024, or less than 1 in 4, that we shall get half heads, half tails, although this is the most probable throw. The probability, however, that a throw does not vary from this more than by the turning of one coin is 672 in 1024, or nearly 7 in 10.

Again, notice the *about*. We can never be certain in matters that chance controls; or, if you prefer, in our confessed ignorance to assert certainty would be gross presumption.

That such numbers of throws are probable means merely that if we threw set after set, millions on millions of sets, of 1024 throws, then the average numbers for each sort of result would closely approximate what we have given, the excesses in some sets being cancelled by defects in others. In the same way, in the above calculation, the numbers of throws in which there are more heads than tails balance those in which there are more tails than heads.

By an extension of the method used to get probable numbers of different sorts of throws we could get the numbers of

different sorts of sets of 1024 throws, of sets of these sets, of sets of sets of sets.... *ad infinitum.*

But what has it all to do with defining chance?

Just this:

A chance distribution of coin tossings is one in accordance with the above indicated calculations.

A chance distribution of events is one in which alike the separate events, and all the possible combinations, and combinations of combinations, nay (combinations of) ∞ of the events happen in accordance with their numerical possibilities.

How such a distribution is brought about, we do not, we cannot say. For that matter, we cannot even say that it is brought about. Neither time nor space nor mind permits the calculation of the distribution in sets of sets of sets....of an infinite number of throws. As far as we can see there may be but chance, and so a modest agnosticism forbids us to postulate a law. The realm of chance is the realm of the unknown, an infinite realm an eternal realm, but liable at any moment to be invaded by the army of seekers after truth.

Notice the perfection of agnosticism in this doctrine of probabilities. Ignorance of any law as to coin tossings bids us say "about half heads, half tails"; ignorance as to the deviation from this law of ignorance bids us set up a scheme of deviations occurring in a set of ten, all possible deviations being treated with an impartiality possible only to a carefully maintained ignorance; and so we go on, forever and forever escaping from the assertion of any fixed law, always saying "about," "about."

But suppose there is a departure from this ideally agnostic distribution. Let the ratio of heads to tails be markedly different from unity. We suspect a law; we ask why. Yet the discrepancy may, after all, be a mere happen so. A hundred heads in succession is to be expected once in enough millions of millions of throws, and is as likely to come at the start as

at any time. This, or any other supposed law, may, after all, be but a run of luck in an infinite enough distribution of chances.

To say, however, that a certain possibility has to be faced is not to assert a probability. A complete theory requires a discussion of even trifling possibilities, but the main business of science, as of life, is with the large probabilities. Though it be true that, no matter how large a gambler's fortune or how small his stakes, there will inevitably, at fair play, in time, come such a run of bad luck as to sweep him off his feet; still in the brief period of a life, the probability may be so small as to be negligible.

Small though the gambler's risk may be, we should deem it enormous compared, say, to the probability that the law of gravitation was a mere matter of chance. But we need not, therefore, say that chance does not, or has not, played a part, even in the law of gravitation.

Suppose our gambler does not play a fair game. Let the odds be slightly in his favor. Ruin is no longer inevitable even in infinite time. The tendency is for his gains to more than cover his losses. The tendency may be imagined as strong as one pleases; at last we have almost a certainty, a law. Did the gambler start with playing fair, but then gradually perfect himself in methods of unfairness, we should have a growing tendency, an evolution of law.

Take a more mechanical illustration, due to Mr. C. S. Pierce.

Spin on a table 1024 coins each ten times. The probable results are given by our previous table for 1024 throws of ten coins, only for throws substitute coins, thus:

Heads	10	9	8	7	6	5	4	3	2	1	0
Tails	0	1	2	3	4	5	6	7	8	9	10
Coins	1	10	45	120	210	252	210	120	45	10	1

Suppose, now, that any coin is ever so little more likely to slip down upon a side on which it had previously slipped most often. Give ten more spinnings.

Then either 252 would get smaller, some other numbers increasing, or, at least, it would be acquiring a tendency to do so which, on constant repetition of the ten spinnings, would at last show itself.

Mark now that the tendency is constantly accelerated, growing with what it feeds upon.

At last we can imagine half-heads-half-tails coming to have as little likelihood and all-heads or all-tails as great likelihood as you please.

A species whose type was half-heads-half-tails has been differentiated into two, of types all-heads and all-tails, formed at the expense of the parent type. Chance has worked against itself to produce a law. We could not at the start say whether a coin would turn up heads or tails; we can now say that probably any coin of the one set would show heads; any of the other, tails.

I have calculated the results of an extreme supposition as to these coins. This, namely: that as they have fallen in any one set of ten spinnings, so will they probably fall in the next.

The upper line of the subjoined table gives the set number; the left hand column, the number of times a coin shows head in ten spinnings; the body of the table, the number of coins in sets indicated at top showing heads as indicated to the left.

	1	2	10	30	52
10	1	15	289	484	512
9	10	49	47	5	0
8	45	82	51	6	0
7	120	119	48	7	0
6	210	159	51	6	0
5	252	186	52	8	0

Still another illustration: a boy is struggling with the multiplication table. Over it and over it he goes, and yet, so far as his teacher can see, it is quite a matter of chance what he will name for any product. Nevertheless, by his teacher merely telling him when he is right, when wrong, the correspondence between factors and product begins to be formed, and finally the naming of the proper numbers becomes almost altogether a matter of law. Again blind chance has worked against herself, giving him the proper correspondence.

Does this seem a poor, blundering, hap-hazard way of teaching? All the better is it for our purpose. Blunderer though he is, the teacher will now and again hit upon ways easier for him and in time develop a habit of teaching, a law, which whether bad or good, furnishes yet another illustration of how by chance order is evolved out of chaos.

Need I further multiply illustrations? Wherever choice of change is possible—and where is it not?—there chance is possible, and slowly but surely works to differentiate these changes connecting each with its appropriate condition. To each possible happening there is given its chance till at last it find its place in an orderly scheme.

But was not the tendency to form a law itself a law? Perhaps. Then go still further back to the tendency toward that tendency. Go back forever. Continuity leads to less of tendency, to less and less of law, to chaos undisturbed, to vacancy, to chance; so infinite potentiality with zero actuality. A

breath and law begins; happenings that were equally possible become unequally so. Are some favored, some uninfluenced, some disfavored by that first breath? We get a group of happenings faintly bound by law, liable at any moment to be broken up. But law begets law and little by little the realm of the uninfluenced, of chance, diminishes. Can it ever be quite subdued? Not save in infinite time, Mr. C. S. Pierce would tell us.

Remember the inch line. Law after law, even an infinite number of them, gave us infinite distribution after distribution of points, and yet we were still even infinitely removed from getting the continuous flow of points upon the line. So is it in the universe. Continuity requires chance to fill in the gaps that law, that machinery, ever leaves.

We observe, we compare, we discern our laws, we build upon them and live by them. Nay, we even dream of unborn generations to be guided by them, and unseen worlds subject to them. Yet while we so confidently labor and so confidently hope, the unseen, the unknown, the unthought of, is silently, but no less certainly, working to destroy the present and build the future in ways that mock all our theories.

> "There's a Divinity that shapes our ends,
> Rough hew them how we will."

But if we only knew more and could see further! That would not alter the case. To naught save infinite intelligence can the complete phenomena of even a fragment of continuity be revealed. The unknown, the, to us, chance, remains to baffle us forever. Why, even in astronomy, exactest of the physical sciences, the very observations on which we base everything must needs be treated by the theory of errors, the doctrine of chances; mark you, is perfected by that very treatment. Striking illustration is it of what we gain by treating the unknown as unknown, chance as chance.

If there has elsewhere been less application of the doctrine of chances, it is either because we have not so fully come to separate the element of chance from the element of law, the accidental errors from the systematic, or else there has been such a complication of conflicting chances as to baffle our powers of analysis. But there is progress all along the line. Increasing delicacy of observation is everywhere bringing the accidental element to light, while at the same time we seem, by Mr. Karl Pierson's laborious analysis and generalization, to have found methods that will revolutionize statistical science. We are enabled to see as never before how much and in what way chance enters into an almost endless variety of phenomena.

Who, then, would prove that all is certain, all is law, all machinery, that even our wills are forced, has an infinite task before him, even supposing he can overcome the contradiction of acting on the free-will principle while arguing against it.

Why not say frankly "here law appears, there chance," and treat each on its own merits, while assuming neither appearance as final? Be always ready, that is, both to learn and to unlearn.

But there is still another point of view; that which our unsuppressible conviction of the will's freedom gives us. Even though we may, with Mr. Huxley, contemplate with satisfaction being wound up like a clock to do right (I confess I cannot), yet, when it comes to being forced to do wrong, we are appalled. There seems but one escape: that of a balance of motives secured by chance, that is by influences beyond our ken. If, now and again, the balance seems destroyed, yet may it not in the long run assert itself and give us power to choose whom we will serve? There is "a stream or tendency of things that makes for righteousness" doubtless, but not that forces to righteousness.

Thus we see what men call chance may be no less than the shadow of the infinite, the eternal, patiently watching, patiently

waiting, to give to each of his creatures, to each atom of matter and of thought in all the universe, the proper chance, the opportunity to fall into the more perfect way, the higher life; never forcing, but ever leading, and with infinite gentleness, knowing all and so forgiving all, seeing that in the end all will come right, nay, even more, will come right by self-choice, and so that all is good.

A may-be, a fancy, a dream, you say. Perhaps, but withal a very pleasant one and a happy escape from the machinery night-mare.

IV.—*The Bacon-Shakespeare Controversy; a Contribution.*

By CARSON HILDRETH.

The purpose of this paper is to make a comparison, in certain aspects, of the writings of Shakespeare and of Bacon. The end sought is evidence touching the authorship of the works bearing the names of these writers; whether Bacon wrote the Shakesperian works—a question more or less discussed the past few years—or, at least, whether the Baconian and Shakespearian writings were the work of one and the same person, or of different persons.

Ten years or more ago Professor Sherman, while investigating the course of stylistic evolution in English prose, made the discovery that authors indicate their individuality by constant sentence proportions, personal and peculiar to themselves. This was demonstrated especially with respect to the number of words used per sentence in large averagings. It was found that DeQuincy, Channing, and Macaulay, if five hundred periods or more were taken, evinced this average invariably, and in the earliest as well as in the latest period of their authorship. This discovery led to the suspicion that good writers would be found constant in predication averages, in per cent of simple sentences, and other stylistic details. Acting upon a suggestion to this effect, Mr. G. W. Gerwig, then a pupil of Professor Sherman, undertook an investigation that established the constancy of predication, as well as simple-sentence frequency, in given authors. Professor Sherman afterwards extended his work to include an examination of Macaulay's sentence-length throughout the *History of England*. Mr. Gerwig was induced later to continue his tests to the end of the same work.

Professor Sherman and Mr. Gerwig have thus established by the examination of a great many authors, that writers are

structurally consistent with themselves; that they possess a certain sentence-sense peculiarly their own. These investigations have established that, by this instinct, authors use a constant average sentence-length, and a certain determinate number of predications per sentence, and that a given per cent of their sentences will be simple sentences. It is further shown that good writers save finite verbs, so lightening their style, by the use of participles and appositional devices with uniform frequency.

Mr. Laughlin and Miss Pound have more recently added their contributions, drawn from the same general field of investigation. They find that this law of thought and expression, this sentence-sense or instinct, manifests itself by the co-ordination of a writer's sentences, and in other stereotyped conjunctional uses.

The work of these investigators covers a large amount of material and a wide field of literature. They have examined and compared the works of ancient and recent authors, early and late writings of the same author, and writings of the same author of different character, such as history and dialogue, poetry and prose. The results thus far obtained are sufficient to show that it is not possible for a writer to escape from his stylistic peculiarities. Even should he attempt to counterfeit another set of structural or literary features, he would betray himself, just as in the attempt to adhere to a feigned chirography, by the very incertitude of his execution.

The intention of this paper is to apply some of these tests to the writings of Shakespeare and of Bacon. In Shakespeare the material comprises the prose in fifteen plays, in Bacon the *Essays* and the *New Atlantis*. The examination covers 5,002 sentences in Shakespeare and 2,041 sentences in Bacon. The tests used are the sentence-length, predicational average for each sentence, and the per cent of simple sentences. The relative co-ordination and subordination in verbs, and other con-

junctional peculiarities, the clause-saving by gerundial and like constructions, though promising results yet more marked, have been omitted from this investigation.

As was done by Miss Pound, in her work upon the *Romaunt of the Rose*, the material here examined was first repunctuated according to the principles of Mr. Skeat. In the Shakespeare side of the inquiry, only organic and completed sentences were considered; all broken and suspended diction, as palpably offering no product of the author's sentence-sense, was consistently omitted. The Globe text was used throughout.

The results which follow are given, to save space, in summaries only; except, for illustration, a few hundreds of specimen results from each author. Of these will be given, first, the figures from one of the earlier, and one of the latest of Shakespeare's plays; and, following these, the first four hundred periods of Bacon's *Essays*, and of *The New Atlantis*.

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SENTENCE LENGTH.

Two Gentlemen of Verona.

	13	10	8	1	5	9	23	16
	2	10	10	1	4	14	7	3
	12	6	9	6	9	7	44	20
	8	9	11	6	4	4	2	6
5....	6	78	3	3	3	5	5	17
	6	56	7	4	17	4	8	3
	6	7	2	5	5	8	5	4
	8	6	9	4	8	4	7	1
	11	2	2	5	9	10	15	42
10....	27	2	6	6	25	5	2	16
	33	54	7	3	7	17	16	35
	8	9	11	3	13	8	2	15
	10	11	7	3	8	7	15	27
	28	8	3	7	13	4	6	39
15....	10	6	11	1	5	4	18	33
	11	14	8	5	2	5	10	24
	13	5	7	2	9	13	18	32
	8	7	9	6	7	4	9	6
	22	6	10	6	10	10	10	16
20....	7	4	6	5	10	4	10	13
	1	11	8	7	13	18	1	9
	6	11	3	1	26	6	1	45
	3	14	7	8	1	12	5	25
	17	7	29	10	18	4	6	26
25....	6	15	40	14	3	15	10	4
	15	4	73	4	3	6	14	12
	10	5	14	8	8	20	8	4
	11	8	60	11	2	4	23	6
	8	6	61	10	3	7	6	4
30....	15	5	28	8	17	13	4	5
	8	15	31	4	1	11	4	8
	8	8	35	8	1	6	2	11
	10	1	16	18	4	7	4	8
	15	4	4	15	1	7	7	20
35....	10	27	4	35	2	13	9	5
	9	5	12	9	1	6	8	12
	1	32	20	7	7	8	7	8
	7	18	5	10	4	23	4	39
	20	28	9	31	1	4	4	———
40....	23	7	43	25	2	14	7	1076
	13	10	7	10	9	5	12	12.34
	4	13	6	12	8	10	5	
	10	3	3	5	34	4	13	
	28	2	3	1	80	10	7	
45....	4	5	15	6	14	7	7	
	3	14	28	2	7	19	8	
	6	3	9	4	6	5	6	
	7	9	6	9	22	37	9	
	7	6	3	8	15	2	9	
50....	7	11	4	13	9	17	15	
		11.56		11.27		9.61		

388 sentences—average 11.14.

SENTENCE LENGTH.

Coriolanus.

	8	5	2	4	9	9	12	5
	2	6	14	40	30	12	15	12
	10	5	11	11	3	21	7	4
	2	7	3	4	29	7	16	5
5....	11	15	6	10	10	24	7	24
	6	15	4	10	8	21	9	3
	17	19	21	6	10	11	13	16
	9	53	2	4	15	17	3	6
	2	7	5	14	12	5	7	6
10....	4	5	11	5	22	3	4	8
	8	8	4	10	27	4	13	58
	7	3	22	38	14	6	20	22
	26	17	26	6	2	3	6	26
	25	9	6	5	24	5	10	14
15....	26	4	6	30	13	1	6	6
	7	4	21	9	2	5	17	4
	11	18	9	11	24	3	2	6
	10	17	31	5	16	6	13	21
	21	17	3	3	16	5	7	4
20....	5	4	19	8	55	4	15	4
	50	11	7	4	7	15	7	60
	13	23	60	5	15	4	14	12
	9	18	12	11	8	4	24	22
	20	6	28	4	8	4	14	19
25....	4	10	50	8	13	7	5	37
	8	16	19	16	7	4	39	27
	5	8	18	12	9	16	24	1
	3	14	8	15	6	7	37	2
	2	2	8	10	9	7	15	6
30....	4	11	40	10	13	5	12	9
	10	23	48	3	4	3	14	6
	11	22	14	6	2	4	6	12
	27	13	7	5	3	18	35	9
	15	13	21	13	18	1	4	25
35....	11	15	16	16	6	4	30	14
	39	10	39	44	12	12	5	6
	18	4	31	32	8	3	3	14
	25	14	20	47	15	3	28	10
	13	14	10	26	6	3	9	9
40....	30	3	24	76	24	3	13	4
	80	9	14	22	16	8	24	28
	16	3	4	9	34	8	23	17
	28	13	8	5	16	5	29	15
	10	7	8	13	2	6	8	15
45....	15	7	4	6	2	8	8	18
	41	2	4	63	8	16	5	5
	7	12	24	31	7	5	9	16
	2	10	8	31	22	27	6	8
	7	10	4	68	22	5	4	15
50....	8	14	11	3	3	17	6	20
		13.23		16.42		10.70		13.77

4 0 sentences—average 13.53.

PREDICATIONAL AVERAGE.

Two Gentlemen of Verona.

	2	2	2	1	1	1	1	3
	1	1	1	0	3	0	7	1
	3	2	2	0	1	0	1	2
	0	1	0	2	1	1	0	3
5....	1	8	0	1	2	1	2	1
	0	1	0	1	8	2	0	3
	1	1	1	2	2	3	1	1
	2	0	0	1	1	0	3	1
	4	0	1	1	2	2	0	0
10....	5	8	1	1	2	2	2	3
	1	2	2	2	1	1	0	3
	2	2	1	0	0	1	2	3
	2	2	1	0	1	1	1	4
	1	1	1	0	1	1	3	2
15....	2	2	1	1	1	2	1	3
	2	1	1	1	1	1	2	6
	1	0	1	1	2	2	0	4
	2	0	1	1	3	1	2	5
	2	1	2	0	2	1	2	5
20....	2	1	2	1	0	2	0	1
	0	2	1	2	1	2	0	5
	2	1	7	2	1	1	0	2
	1	0	5	1	0	2	1	1
	5	1	6	1	2	1	1	8
25....	1	1	2	2	0	2	3	4
	2	1	7	0	0	1	2	4
	1	2	10	2	3	1	6	1
	2	1	4	1	0	0	2	2
	1	1	4	1	0	1	1	3
30....	0	2	6	3	0	2	1	2
	2	2	2	2	0	1	0	0
	2	0	1	5	0	1	1	1
	2	1	1	1	0	1	1	2
	2	4	4	1	2	2	1	1
35....	2	1	1	2	2	1	2	4
	0	2	1	3	0	1	2	1
	1	2	4	2	1	1	0	2
	1	4	1	1	2	2	1	1
	3	1	1	2	2	1	0	
40....	2	2	0	1	5	2	1	171
	1	2	0	0	12	1	1	1.92
	1	1	1	1	2	2	3	
	4	1	4	0	1	1	2	
	0	1	2	1	2	2	1	
45....	0	1	2	1	4	1	1	
	1	1	1	1	2	5	1	
	2	0	1	2	0	1	1	
	1	1	0	2	1	6	2	
	1	1	0	2	1	1	2	
50....	1	0	1	1	0	4	3	
		1.56		1.64		1.56		

388 sentences—average 1.66.

PREDICATIONAL AVERAGE.

Coriolanus.

	2	0	2	1	2	2	2	6
	2	1	2	3	9	3	1	1
	1	1	3	1	3	1	1	3
	2	1	0	0	3	1	0	1
5....	2	0	2	2	6	1	0	3
	2	1	2	0	1	1	0	1
	2	1	0	3	2	3	1	1
	1	3	0	2	3	1	0	1
	1	2	1	0	0	1	0	1
10....	0	2	1	2	1	1	1	3
	0	8	0	2	1	2	1	1
	1	2	1	1	2	1	1	1
	2	0	1	1	1	1	0	0
	5	1	0	1	2	0	1	1
15....	3	0	2	1	3	3	1	0
	3	2	3	3	2	0	3	0
	1	1	1	4	2	1	1	2
	1	0	1	1	2	1	2	1
	2	2	3	1	3	1	2	1
20....	2	2	1	3	0	0	2	5
	1	3	1	1	4	1	4	1
	7	3	2	1	2	2	2	3
	2	1	1	1	0	1	1	2
	1	2	0	0	3	1	2	2
25....	3	4	1	0	2	1	0	2
	1	2	1	2	1	1	0	3
	1	2	4	1	6	1	1	2
	1	2	3	1	2	2	0	4
	0	2	5	2	2	1	1	3
30....	2	1	8	1	1	2	3	1
	1	2	3	0	1	2	0	1
	1	0	2	2	2	0	1	1
	3	2	1	1	1	0	1	6
	3	3	1	2	2	1	2	0
35....	2	2	3	1	2	1	0	1
	1	3	5	2	2	1	2	7
	0	2	2	1	3	1	1	2
	1	3	1	1	1	1	2	3
	5	2	1	1	0	1	1	1
40....	4	1	3	3	0	2	2	2
	3	3	3	3	0	1	3	4
	2	2	4	8	3	2	2	3
	4	0	2	4	1	2	0	0
	7	2	1	5	1	1	3	0
45....	3	0	1	2	1	0	3	1
	4	1	2	5	1	0	3	1
	1	1	0	5	1	1	3	1
	2	2	0	1	1	4	2	1
	4	0	2	2	3	1	2	2
50....	0	1	0	2	2	1	2	3
		1.89		1.82		1.60		1.65

400 sentences—average 1.73.

SENTENCE LENGTH.

Bacon's Essays.

	13	26	15	33	107	38	18	41
	25	34	32	28	43	26	46	46
	39	23	48	27	59	26	5	50
	44	22	19	47	84	21	30	16
5....	48	78	19	11	39	10	10	51
	33	40	14	28	86	47	3	16
	9	41	19	27	34	64	5	23
	48	47	25	55	61	20	15	20
	27	31	11	36	60	31	74	35
10....	31	51	17	29	25	11	55	29
	61	12	07	40	9	31	28	34
	36	6	21	29	43	31	42	39
	34	4	56	38	29	36	34	13
	112	11	37	29	62	21	45	13
15....	24	9	6	24	47	18	83	21
	61	36	13	30	23	20	51	72
	23	82	42	25	79	19	51	28
	19	27	12	22	73	21	21	23
	56	13	90	64	73	32	36	26
20....	8	14	25	35	38	28	11	41
	48	27	27	37	28	36	35	70
	26	41	21	42	52	32	13	37
	32	32	21	54	69	28	38	22
	13	34	16	33	6	22	73	46
25....	74	48	33	30	14	31	12	33
	23	30	14	34	30	12	18	18
	20	30	26	48	26	23	84	28
	50	44	30	36	90	28	29	42
	53	27	13	14	19	14	19	34
30....	21	32	26	23	51	31	51	22
	24	23	30	31	22	25	28	13
	30	81	20	27	53	16	13	25
	13	25	64	101	25	11	42	19
	16	25	22	41	61	8	35	37
35....	8	19	33	28	12	21	14	26
	12	44	42	21	33	20	30	66
	15	10	39	25	47	25	68	5
	13	39	13	19	69	21	44	23
	18	31	22	16	58	13	8	75
40....	11	44	20	52	38	14	37	44
	24	55	22	21	34	36	28	34
	42	18	33	15	36	36	22	28
	20	32	20	31	26	26	18	50
	15	23	41	26	42	28	44	33
45....	3	24	9	21	37	32	19	36
	24	28	30	11	44	13	38	52
	12	18	13	36	51	13	55	50
	20	21	14	29	31	3	22	15
	22	12	14	18	47	3	29	44
50....	25	24	17	41	15	3	25	35
		30.26		28.91		34.15		33.53

SENTENCE LENGTH.

The New Atlantis.

	47	24	30	21	25	47	4	9
	31	7	30	48	33	14	18	19
	44	38	33	41	16	56	36	26
	28	24	43	35	20	49	29	36
5....	54	35	40	67	34	35	77	7
	59	24	32	20	13	24	43	13
	47	18	29	13	17	93	47	31
	21	41	39	22	9	7	13	45
	15	47	25	19	70	36	15	17
10....	20	10	53	17	33	23	13	13
	37	39	35	20	62	84	8	16
	15	21	84	51	46	7	21	41
	49	40	31	55	8	52	16	22
	47	66	16	18	168	31	30	34
15....	80	20	30	156	77	20	15	19
	20	22	81	28	49	8	7	17
	17	18	50	07	28	25	21	31
	8	15	96	23	70	25	15	24
	12	5	37	15	26	20	32	30
20....	23	28	54	24	48	38	36	28
	26	47	32	97	15	79	27	31
	27	27	25	11	88	30	11	25
	27	35	73	67	32	48	43	28
	35	54	24	39	37	38	50	40
25....	21	22	24	12	44	26	19	32
	28	34	76	47	59	47	15	45
	21	21	40	60	15	12	29	49
	25	27	52	92	18	26	16	21
	39	14	47	38	21	7	24	37
30....	7	19	41	46	16	35	18	28
	29	37	30	32	26	27	39	14
	49	17	34	61	41	18	65	36
	23	17	30	35	29	19	16	34
	21	38	14	27	5	13	18	16
35....	17	28	9	29	31	27	41	38
	69	22	48	30	22	18	19	11
	10	30	45	30	37	44	36	26
	20	42	22	14	47	43	15	33
	82	8	31	20	29	30	36	22
40....	42	16	49	196	71	33	8	20
	40	26	55	27	45	20	40	29
	11	9	28	17	73	30	22	27
	59	12	27	9	23	22	16	43
	39	38	42	25	25	24	12	16
45....	13	16	51	13	50	49	12	53
	51	16	8	86	59	48	10	54
	32	41	21	40	27	30	11	27
	20	37	78	12	13	12	9	49
	17	16	57	18	25	72	31	42
50....	10	10	26	17	25	22	6	46
		29.02		40.54		35.43		26.60

PREDICATIONS.

Bacon's Essays.

	3	3	1	4	9	2	0	2
	2	3	5	4	4	1	4	5
	5	3	6	1	5	3	3	3
	5	2	4	6	12	3	1	4
5....	4	1	1	1	6	2	3	2
	3	11	2	4	10	7	1	3
	4	6	2	3	4	8	0	4
	1	4	5	5	8	4	0	4
	4	4	1	4	8	3	1	3
10....	3	3	4	4	3	3	8	2
	4	7	0	5	1	3	8	2
	7	1	4	4	5	1	2	9
	3	1	4	3	3	4	7	3
	4	1	5	4	8	2	5	2
15....	7	1	0	3	5	2	4	5
	1	2	2	2	3	4	8	3
	5	1	2	4	10	2	6	8
	2	2	2	4	6	3	2	4
	2	10	8	8	4	2	4	3
20....	7	3	3	2	3	2	1	3
	2	1	3	4	3	6	2	5
	4	1	2	5	5	6	2	4
	4	2	1	8	5	4	4	3
	2	7	2	3	0	2	8	3
25....	1	4	2	4	2	4	1	3
	7	5	1	4	4	1	7	4
	3	7	5	7	2	5	4	1
	1	3	2	5	13	2	3	1
	6	2	2	2	1	4	6	3
30....	9	4	1	3	5	3	3	1
	3	3	3	2	1	5	3	3
	2	3	1	5	6	2	7	2
	2	2	6	12	4	3	3	7
	2	5	2	3	6	1	1	1
35....	2	2	3	3	1	1	9	3
	2	4	3	3	2	3	5	9
	1	2	5	3	4	3	1	3
	1	4	1	2	6	4	5	4
	2	1	2	2	4	3	4	3
40....	2	7	3	5	3	1	5	1
	2	1	2	3	4	2	2	4
	5	1	3	1	3	3	3	4
	3	3	3	4	2	4	1	5
	3	2	4	3	3	4	4	7
45....	3	4	1	3	5	6	6	2
	1	3	3	5	5	5	3	6
	2	2	1	3	8	1	4	4
	2	3	4	2	5	2	4	3
	2	3	2	4	5	1	5	2
50....	3	3	2	2	4	0	4	3
		3.23		3.26		3.90		3.65

PREDICATIONAL AVERAGE.

The New Atlantis.

	3	4	4	3	5	1	1	2
	4	1	5	2	4	3	3	2
	5	2	3	6	2	2	3	1
	2	3	5	6	2	6	3	1
5....	6	1	5	3	4	6	6	3
	7	4	3	10	1	4	6	5
	5	2	3	3	3	3	6	3
	1	5	2	1	2	6	2	1
	2	5	3	3	7	1	1	1
10....	3	2	6	4	3	4	3	2
	3	3	5	1	6	3	1	1
	2	2	9	6	3	8	3	1
	3	5	5	3	0	1	1	3
	3	8	3	1	12	7	1	1
15....	8	3	2	9	6	2	3	2
	2	3	11	3	4	1	1	3
	2	3	6	1	4	1	3	2
	1	3	4	3	9	3	1	2
	1	1	2	2	4	3	1	1
20....	3	3	6	2	4	2	2	2
	2	2	6	7	2	5	1	3
	3	3	2	1	7	8	1	2
	3	5	4	3	3	9	1	4
	4	6	6	4	3	2	2	1
25....	1	3	3	1	3	6	2	3
	5	5	2	5	7	4	1	1
	3	4	9	3	1	3	1	2
	1	2	3	5	2	4	2	1
	3	1	6	5	2	3	4	2
30....	1	1	4	5	4	2	3	2
	3	4	5	4	2	1	5	3
	4	1	2	5	4	4	9	4
	3	2	2	4	2	2	2	1
	4	5	2	2	1	1	2	6
35....	3	2	2	4	3	2	2	1
	9	3	2	3	1	2	2	3
	2	3	6	2	3	3	3	3
	3	3	7	2	3	2	3	3
	10	1	4	2	2	5	4	3
40....	7	2	4	11	6	4	2	3
	3	2	4	3	2	4	6	3
	2	1	9	2	3	4	1	1
	6	2	1	1	3	1	1	1
	6	3	3	2	2	2	1	3
45....	3	2	4	3	3	2	1	4
	6	1	3	8	5	4	1	5
	5	5	1	4	4	7	1	4
	2	4	2	3	2	5	1	2
	4	2	5	4	4	5	1	2
50....	1	1	7	1	2	2	3	2
		3.22		3.93		3.51		2.37

The summaries obtained from the comparison are as follows:

SHAKESPEARE.

SENTENCE LENGTH.

No. of sentences.	No. of words.	Av. no. words per sentence.
5,002	61,956	12.39

PREDICATIONS.

No. of sentences.	No. of predications.	Av. no. of predications per sentence.
5,002	8,527	1.70

SIMPLE SENTENCES.

No. of sentences.	No. of simple sentences.	Av. no. simple sentences per 100 sentences.
5,002	1,962	.39

BACON.

SENTENCE LENGTH.

	No of sentences.	No. of words.	Av. no. of words per sentence.
Essays	1,558	51,286	
New Atlantis	483	15,238	
	2,041	66,524	32.59

PREDICATIONS.

	No. of sentences.	No of predications.	Av. no. of predications per sentence.
Essays	1,558	5,571	
New Atlantis	483	1,487	
	2,041	7,058	3.45

SIMPLE SENTENCES.

	No. of sentences.	Av. no. of simple sentences.	Av. no. simple sentences per 100 sentences
Essays	1,558	190	
New Atlantis	483	104	
	2,041	294	.14+

SHAKESPEARE.

	No. sent's	Sentence length.	Predications.	Simple sent's
Macbeth	78	18.46	1.60	.47
Othello	100	15.04	1.98	.29
	100	13.20	1.60	.44
	100	9.20	1.36	.41
	70	12.30	1.97	.27
Winter's Tale	100	17.16	2.10	.30
	100	14.79	1.89	.33
	100	14.10	1.83	.49
	100	20.86	2.64	.27
	4	13.00	2.25	.22
Cymbeline	100	16.45	1.98	.31
	100	12.20	1.77	.40
	39	19.18	2.40	.25
Julius Caesar	100	12.87	2.17	.37
	21	7.52	1.23	.42
Antony and Cleopatra	100	10.91	1.59	.44
	79	11.86	1.62	.49
Coriolanus	100	13.26	1.89	.29
	100	16.42	1.82	.37
	100	10.70	1.60	.45
	100	13.77	1.65	.37
	10	12.30	1.40	.60
Measure for Measure	100	11.43	1.63	.34
	100	13.76	1.56	.34
	100	15.39	2.04	.38
	100	14.10	1.66	.34
	100	15.40	1.92	.31
	78	12.12	1.75	.23
Hamlet	100	11.31	1.72	.46
	100	12.52	1.67	.40
	100	12.58	1.58	.40
	100	9.47	1.37	.54
	100	10.19	1.74	.38
	100	11.73	1.49	.35
	41	13.95	2.04	.38

Romeo and Juliet.....100	10.79	1.61	.36
100	11.52	1.47	.36
78	11.52	1.37	.55
King Lear.....100	13.45	1.62	.39
100	10.20	1.53	.45
100	10.36	1.62	.36
100	13.63	1.85	.36
100	11.03	1.60	.43
19	9.95	1.36	.42
Comedy of Errors.....100	11.97	1.45	.47
46	11.45	1.86	.39
Tempest 100	8.06	1.20	.49
100	12.20	1.94	.43
100	9.96	1.69	.39
16	9.87	1.87	.19
Two Gentlemen of Verona.....100	11.56	1.56	.42
100	11.27	1.64	.46
100	9.61	1.56	.42
88	12.34	1.92	.33
Troilus and Cressida....100	10.22	1.50	.42
100	9.81	1.69	.52
100	9.65	1.36	.44
35	11.38	1.74	.31

SUMMARY BY PLAYS.

Macbeth.....	78	18.46	1.60	.47
Othello.....	370	12.44	1.70	.36
Winter's Tale.....	404	16.68	2.11	.34
Cymbeline.....	239	15.11	1.96	.34
Julius Caesar.....	121	11.94	2.00	.38
Antony and Cleopatra.....	179	11.33	1.60	.46
Coriolanus	410	13.49	1.72	.37
Measure for Measure.....	578	13.76	1.76	.32
Hamlet	641	11.47	1.62	.41
Romeo and Juliet.....	278	11.26	1.50	.41
King Lear.....	519	11.66	1.63	.39
Comedy of Errors.....	146	11.87	1.58	.44
Tempest	316	10.06	1.62	.42
Two Gentlemen of Verona....	388	11.14	1.66	.40
Troilus and Cressida.....	335	10.18	1.54	.44

BACON.

ESSAYS.

		Sentence length.	Predications.	Simple sent's
First	100	30.26	3.23	.15
	100	28.91	3.26	.12
	100	34.15	3.90	.12
	100	33.53	3.65	.13
	100	31.93	3.53	.14
	100	34.03	3.47	.18
	100	33.47	4.13	.09
	100	36.38	3.82	.11
	100	36.74	3.86	.10
	100	28.50	3.42	.05
	100	28.53	3.42	.10
	100	30.99	3.66	.13
	100	41.56	3.09	.16
	100	31.55	3.65	.10
	100	32.93	3.61	.10
	58	33.84	3.46	.20

NEW ATLANTIS.

First	100	29.02	3.22	.17
	100	40.54	3.93	.10
	100	35.43	3.51	.12
	100	26.60	2.37	.36
	83	25.04	2.21	.35
	2041 sentences,	32.59	3.45	.14+

GRAND SUMMARY.

	No. of sent's	Sentence length.	Predications.	Simple sent's
Shakespeare	5,002	12.39	1.70	.39
Bacon	2,041	32.59	3.45	.14

The 5,002 sentences in Shakespeare aggregate 61,956 words, the 2,041 sentences in Bacon 66,524 words, so that the *material* in Bacon is slightly in excess of that examined in Shakespeare. Shakespeare's sentences average 12.39 words per sentence, and Bacon's 32.59. Shakespeare averages 1.70 predications to the sentence, Bacon 3.45. Shakespeare uses 1.962 simple sentences, Bacon but 294; or, in other words, 39 per cent of Shakespeare's sentences are simple sentences, while of Bacon's sentences but 14 per cent are simple sentences. The deduction is easily made, yet the figures are not presented as proof conclusive, but only as contributory evidence.

V.—*Generalization and Economic Standards.*

By W. G. LANGWORTHY TAYLOR.

The inductive habit arising from the historical and statistical study of economics is liable, at times, to lead the investigator into a complex of detail or of criticism, which seems to go almost to the point of denying the function of generalization as a method of reaching the truth. No one will, however, be inclined to deny the abstract statement that generalization is essential to the method of science in all its branches. On the other hand, the salutary effect of special criticism is equally incontestable. It is, therefore, with pleasure that the writer acknowledges his obligations to a recent article on the *Exploitation of Theories of Value*,[1] while he wishes to point out such complimentary arguments as may serve to supply the basis of generalization.

The question of deferred payments is a most convenient one for the introduction of the topic of method. An erroneous method cannot conduct us to the truth, except by chance; a correct method may lead to correct results. In every inquiry, a logical form must accompany the specific subject matter, and hence is of great importance. If we are pursuing inquiries the answers of which may subsequently be the ground of positive action, it is highly important that we be fully conscious of the validity of our method of inquiry. If we advise society to take this or that action, we must first be sure that we have a right to treat society at least as a synthetical unit having interests that may be separately considered and about which a distinct policy may be affirmed. Now, the question of deferred payments may be properly treated as a question of the medium of exchange; and the medium of exchange is preeminently a

[1] Frank Fetter, Ph. D. Annals of the American Academy, May, 1895.

social category. To deny that there is a general policy of currency founded upon scientific generalization is as radical as to deny that there is any general scientific policy of society at all. It will be best, therefore, to begin with a short recapitulation of the objections that have been offered to the studies of some economists, which look toward a general and final solution of the question of deferred payments.

In the typical paper cited the commodity standard is objected to, not because it excludes the creditor from any share in the social surplus when prices fall, but because it is impossible to be sure whether gold has risen or fallen with respect to other commodities. It is impossible to predict what value will be attached, in the future, to commodities and groups of commodities separately, while the conception itself of a general rise or fall of values is questioned.

The labor standard is objected to, not because it excludes the debtor from sharing in the social surplus when prices fall, but because it is impracticable to settle upon the person whose labor is to form the standard. Besides, it makes a great difference whether the labor has been expended in an industry that has been affected by improvements or not. In the latter case the debtor is injured by paying in articles that have risen in value. Labor can afford no standard except by comparing articles produced.

Marginal utility is rejected as of no use for a comparison of the values of different periods, not because there is no such thing as marginal utility, but because the moment you depart from a comparison of different specific species of commodities, and attempt to estimate the whole, you are deprived of your material standard. Wholly deprived of material standard, the investigator must fall back upon an absolute, subjective, or psychologic standard; but none such has yet been invented. Moreover, the final utility theory can be of very restricted application in any case: in constructing a scale of effective wants,

allowance must be made for lapse of time, and there is no basis for computing such allowance.[1]

The marginal disutility standard suffers from precisely similar weakness: change the scale of effective wants, and the marginal disutilities are no longer equal. After all, even if we succeed in finding a standard of value that will be applicable in the comparison of different periods, no legitimate conclusion will follow, that such comparison, if practically applied, will result in justice. The questions of justice and of value are, therefore, regarded as separate. The conclusion is that no theory of deferred payments is possible, which does not proceed from practical considerations as to what class in the community should be favored; for every change in the standard must injure some and benefit others.

The stimulating criticism above briefly outlined does not attack directly the logical attitude of general reasoning. It rather seeks to bring the usual method into discredit by multiplying difficulties in its practical application. If, for instance, it is impossible to establish a scale of effective wants because such a scale would probably change from day to day or from hour to hour, what use is there in talking about such a scale? The answer, of course, is that such a scale is an absolutely necessary tool of the economist, for the acceptance of its truth leads him to the discovery of principles of justice. Without denying the possibility of such a scale as a concept, the reasoning in question seeks to impugn the utility of such concepts, and every occasion is taken to point out the apparent conclusion that if such reasoning is untenable *in specie*, it is still less tenable *in genere*. The whole effect is a denial of social interests as an economic concept, for if it is impossible to reason generally as to the standard of values it is also impossible to

[1] The present writer suggests that additional argument is needed to disprove what was the main thesis of Professor J. B. Clark's well known article, *The Ultimate Standard of Value* (Yale Review, November, 1892), that disutilities of all persons, at all times, are commensurable.

reason generally as to international exchange, or, in the domain of sociology, as to social choices.

The classification of political economy springs from popular concepts. Prosperity and adversity, land, labor, and capital, need a science of economics, not in order to create them, but in order to classify them. The confusion that plays back and forth between production and distribution, attaching value now to the one and then to the other, can only be cleared up by a laborious process of elimination. But these basic facts lie in popular consciousness. They are as real as rocks in geology. What the people feel is an economic fact, and it can not be reasoned away. It can only be reasoned about.

Now the people feel intensely on the subject of social prosperity, which generally takes, in their minds, the narrower form of national prosperity. Every campaign orator tells of the state of the country, regarded as an entity. The people regard themselves as a whole. It must be admitted that a host of popular misconceptions are fastened to this point of view. Our orators and even our presidents are wont to attribute to the will of the sovereign people that which was brought about by a majority or by a mere clique. However, if we consider that the frame of government itself which permits such abuses, whether "absolute" or "limited," is but the expression of the national mind, we may be inclined to cling to the unity of the people, even in the extreme case of apparent miscarriage of popular will. The question is one of the remoteness of the influences, *i. e.*, the length of time embraced in the concept. If a long period is contemplated, then every act of a clique must be regarded as the effective act of the people.

A form of thought must always have its appropriate utility. The ready use of personification has helped man to broader concepts. The forces of nature, the nation, Deity, have been or are personified, with the effect of nearing the truth; and

the same method, which, in a large, rough way has accompanied mankind into the light of civilization, may, under the refined concept of a solidarity of social interests, still help us to exacter truth.

Social science does not only find its subject matter in the people, but it adopts their methods of thought. The latter are subjected to the same refining and defining as the former. The syllogism is no invention of science; the modern conception of relative truth is but the thought of the modern mechanic and inventor; and the concept of social prosperity as a unit was not discovered in closet studies.

When economic theory detached itself from political, the Physiocrats gave to the idea of social unity a further definiteness, by confining it within the economic category. They boldly formulated the source of national wealth, and declared it to be in the land. The land paid the cost of the whole socio-economic effort, and the land returned the surplus enjoyed by succeeding generations. Thus, cost, surplus, and society were regarded as concepts of equal breadth and validity.

The central thought of Adam Smith was the harmony between individual interests and those of society, considered as a separate and independent entity. The social surplus was shown to arise as much from manufacture, transportation, and exchange as from agriculture. Agriculture was still admitted to a large share: the surplus was greater in a newly settled country than in an older one; but still, division of labor was a *social* institution which combated nature and produced a product for distribution among the whole community.

Ricardo formulated a still more definite social concept. He showed that the scheme of what we may be permitted to call *calculated* or *voluntary* economics was carried out upon a margin of production imposed by nature; upon this margin alone could be determined the social cost. Cost was measured in the general rate of wages, which followed the ascending re-

sistence of nature to encroaching population. If population continued to increase, profits would fall, the surplus would decline, and finally wages (identified with cost) would swallow all production.

John Stuart Mill presents to us a rounded picture of economic society, stencilled upon Smith and Ricardo. He informs us that it makes little difference in the theory, whether, in practice, it be hard to distinguish between instances of private action that make for or against social prosperity.[1] With analysis of the practiced logician, he concludes that only that labor can be called truly productive and only that wealth can be called true capital, which are devoted to the ultimate, or at least, the immediate, increase of social possessions. Between the ultimate and the immediate even Mill's logic seems to falter. He seems to be uncertain whether to include in capital durable luxuries which add to wealth by the negative quality of durability alone, or to draw the line strictly at productive instruments. He then proceeds to show how this end is accomplished by capitalization through the practical division between fixed and circulating capital. The social limits of the process of wealth-making are next described; the relation of social cost to social surplus; while the structure is capped by value stated as a relation of the component parts of social product due to the portion of social cost pertaining to each one of them. Distribution is regarded as a separate and prior process to that of value. It depends indirectly upon the proportion between cost and surplus, while value depends upon cost alone.

This conception of society is one in the highest degree monadical; the whole industrial world is seen to act and move as if one typical man acted and moved according to his normal powers and motives, and with their normal effect.

[1] Essays on Some Unsettled Questions of Political Economy. Essay III. *On the Words Productive and Unproductive.*

Notwithstanding the apparently extreme limit to which Mill carries the method of regarding society as a unit, the Historical School accused the Orthodox School of insufficient personification. The latter were said to vibrate from extreme individualism to vague cosmopolitanism. The nation was said to be the economic unit, and its welfare was to be studied, rather than that of an indeterminable society.

The Austrian School again reacted to the orthodox idea of economics as a category of society. A philosophy of consumption can no more be limited by the narrow frontiers of the nation than can a philosophy of production. Capital is a congeries of intermediate instruments of production, set in motion in response to social wants. Products of foreign investment brought within a nation from abroad are like accessions from the moon; they are not accounted for in a mere national economy. They belong to the legal category exclusively; they are merely so many debts paid off. The economic category can, therefore, only be satisfied by an economic theory of society as a whole.

In the United States, the economic philosophy of Professor Simon N. Patten has divorced itself as far as possible from the necessity of reasoning from the individual up to the social concept, but begins with the latter, and boldly declares that cost is a sum that may be treated as an economic unit.[1]

Enough has been said, it is hoped, to convince the reader that whatever changes may have taken place in theories of production and distribution, and whatever differences of opinion may have existed among students of economics (differences that have usually marked advance rather than dissension), the concept of social interests as a single whole has invariably been one of the most useful instruments in the dis-

[1] "Cost is the pain of production, while surplus is the excess of satisfaction obtained by society in the consumption of economic goods above the cost of producing them. Both cost and surplus are subjective quantities. They are sums to which we can add or from which we can subtract."—*The Theory of Dynamic Economics*, p. 94.

covery of economic truth. Economic criticism, which passes completely by this concept, dispenses with it, and attempts to satisfy itself with endless considerations of individual cases, must proceed upon the assumption either that the larger concept is logically false and impossible, or that it cannot be made to bear fruit in practice. To the former of these objections the writer will now address himself.

The logical basis of the concept of a general or typical solidarity of social interests is to be found in the doctrine of the relativity of truth. If economic truth (*e. g.* a standard of value) is relative to economic epochs, then the interests of the epochs must be capable of consideration severally as units. Broadly speaking, a social norm is simply a truth relative to society. Such a truth is entirely independent of personal considerations and interests. It embodies the interests of society alone. The interests of society are most readily presented to the mind as the public point of view, not in the sense of public opinion, but in the sense of that point of view which unfolds real public welfare.

Political economy is the study of private affairs from the public point of view. Departure from this rule is sure to end in error. The physician who contents himself with topical treatment, lightly assuming that it must be good because it produces or pretends to produce topical effects, kills his patient; and the statesman who pursues an analogous course to the neglect of sound principles of social hygiene, ruins society. The error arises from sympathy uncontrolled by broad judgment. It is perceived that some individual or class is injured, and the assumption is rashly made that the injury is remediable by topical treatment. The inquiry should be, what treatment will so increase the *social well-being* that the individual or class in question will be relieved of its burdens. This is the utmost extent to which an individual or class can claim the economist's attention. This question is distinct and leads to distinct prac-

tical measures. In the ideal or socialistic society, no one will have burdens to bear that will assume the form of an injury. The inquiry then is, how shall society be brought nearer to the ideal state? It will be necessary to dwell further on the concept of relative truth.

In no economic category are individuals more subject to apparent injustice than in that of deferred payments. The more the money question is agitated, the more the feeling of dissatisfaction grows. Even if accepted principles of deferred payments were rigorously applied, the individual would always be more influenced by his circumstances than by the public point of view, and would believe that his difficulties in payment or collection were due to inequality in the money system. There is, therefore, a constant temptation to depart from the public point of view, and probably no one who studies questions of economics can forever avoid this pitfall.

The public point of view is not that of patriotic sentiment; it is rather that of social reason. Reason may be socially defined as that thought which is an addition to the thought which has preceded, and is a foundation for the thought which is to follow. Popular fallacies are not constructive. It is because there is a logic of events that society moves, rather than because of logical thought. Social science seeks to delimit popular conceptions, and thus to create the logical form which shall reflect the logic of events. Society advances by virtue of occasional successes adopted out of endless experiments. Social science passes over the failures and shows us the necessary sequence of the successes. Reason is thus essentially constructive. New reasons never destroy old ones; they only add to them. Much of the discussions of economists, which are popularly supposed to prove the unsettled condition of the science, is really about the latest proposed additions to it. Persons who are really adding to former acquisitions of reason, frequently think they are destroying the old and replacing it by the new.

A little reflection, however, should show that the new and better would have been impossible had it not been preceded by the old, which was itself once novel. Man, as a social being, has been ever toiling to add to knowledge, and has succeeded by virtue of his faculty of reason.

Logically regarded, reason is the syllogism. Broadly and historically regarded, it is the continued application of the syllogism to the conclusions of former syllogisms. The result is an addition to what preceded;[1] and it is also the truth. This truth must always be relative to the objective facts of history. It is the parallel development of mind; it is parallel to the logic of events. To the more psychic persons, the word is more important than the deed—to the less psychic, the subjective yields in reality to the objective. It is cause as well as effect. Hence, the truth of one set of circumstances is not that of another, and the truth of one age is not that of another.

Because the truth of to-day is different from that of yesterday, it does not impliedly deny or contradict the truth of yesterday. This is the doctrine of the relativity of truth. Care must be taken to observe that this doctrine does not deny the existence of an ideal truth—a truth of God rather than of man. The object is clearly to distinguish between these two truths, and to show that science, as an investigator of the actual, is concerned immediately with the latter alone. All sciences, especially political economy, are founded upon relative truth. Similarly, all structures in biology are combined out of cells, the different combinations being relative to different purposes and being arranged in progressive order.

The relativity of the public point of view of each period being established, its characteristics remain for discussion. In the distribution of products, each individual would gladly

[1] See Kidd's *Social Evolution, per contra.*

seize all, or an unduly large share. Evidently he should not be permitted to do this. It thus appears that the public point of view corresponds to the seeming interests of no individual. Even those persons who have the best of intentions are fallible, shortsighted, and ignorant. The public point of view must be one which takes fully into account the human failings of the age; it is the opinion of a wise person as to the best course of conduct for unwise persons. If all persons were perfectly wise, there would still be a public point of view, unanimously agreed to and acted upon; and the political economy founded upon it would be an economic description of paradise.

Taking men as they are, however, the attitude of science toward them must change as they themselves change. The fact of this variation of man was not recognized at early periods. It was supposed that the moral sciences could be established as permanent rules, once for all. There has been a long conflict between those who think that the moral world moves and those who think that it is stationary.

It will be impossible to choose what is best for the men of to-day, until we know what is true of the mental conditions of the men of to-day. It is, therefore, precisely about this point that most economic investigation takes place. Economists have been called on to do psychological work. They have investigated and analyzed "demand," "choice," "want," "desire," "usefulness," "utility," "value," in order to establish, if possible, the public point of view.

It has, until recently, been common to assume, in a vague way, the personality of the public whose interests are studied. In popular discussion, as already remarked, the public is personified. It is said that free trade or protection is for the public good. But free-traders evidently exclude a part of the public, *i. e.*, those carrying on protected industries, from all consideration, and protectionists evidently exclude another large body of the public, *i. e.*, those persons interested in foreign

transportation, middlemen of commerce, and consumers of articles produced more cheaply abroad. This naïve assumption that action which coincides with one's seeming interests is also beneficial to all has tended to pervert scientific discussion. The commodity and the labor standards of deferred payments reflect current feeling of local self-interests. The history of economics, however, is the history of a persistent effort to eliminate the personal equation.

The public with which we have to deal can be none other than the sum total of humanity. If, aided by statistics, we could somehow add together all the industriousness, inventiveness, patience, and power of individuals composing the existing community, into one total, and could then add all the appreciativeness, and sense of gratification, worth, esteem, and enjoyment, into another total, and so on for all categories in which man moves and acts, then we could reason with confidence about our public. If found desirable, we might divide these sum-totals of quality by the number of individuals, or take the geometric or harmonic mean, and thus obtain an average man. If we could, further, place this average man in average circumstances, then his actions would be relatively right, and we should be free to turn our attention to the study of the ideal. It is not necessary, however, to be dogmatic as to the characteristics of the normal man. We are here concerned solely with his bare existence. Perhaps we should have to include corporate individuals and make allowances in each case for a personal equation of some sort.

The necessity to science of the relative conception of truth, and of that conception for each period as a separate and unified expression, is shown by the fact that it is the point on which sociologists lay stress, as well as economists. Sociologists are in search of standards of those characteristics which generally belong to man as a social being; economists, of those

which belong to him as an industrial being. Both sets of enquirers are seeking for the social traits of to-day.

This paper is directed against a sort of economic criticism that almost amounts to backsliding, to lack of economic faith, which denies the argumentative validity of economic uniformities. Especially in the central problem of value, there is no absolute standard because no standard can be found that is not changed by time. Curiously enough, it is also true that no standard can be found that does not involve the assumption that time stands still; the element of time must be eliminated in order that the standard may assume an abstract reality. In mathematics, this is the method of differentials. The error of the negative or particularist school under discussion is twofold: mathematically, it denies the applicability of the method of differentials, which allows us to vary the elements of demand, on the supposition that the element of time is stationary; relatively, it draws an incorrect inference from the observed variation in economic uniformities between different epochs. This variation does not at all lead to the inference that there are no economic uniformities; it rather confirms their actuality by laying stress on their diversity. Since epochs are relative to each other, and a uniformity called "value" is relative to each epoch, then the standards of value of different epochs must be relative to each other. This conclusion is the utmost that can be desired in order to establish a positive standard of value. Establish the standard for any epoch, and then establish the social variation for any other epoch, and you obtain at once the standard for the new epoch. Thus the doctrine of the relativity of value, instead of destroying itself, by proving the absence of positive value, really proves the universal existence of such value.

Destructive criticism asks us to believe that there can be no value at any time that is more general than the separate ratios of separate exchange transactions, and that values at different times can at the utmost mean no more than is expressed by a

variation in price. The doctrine of relativity leads one to infer that there is an absolute value-uniformity or standard of value for each epoch, and it positively asserts that the uniformities of different epochs are comparable.

The conditions necessary to meet these requirements are readily offered by the marginal theory of value. The general framework of an absolute standard is presented by this theory, while within this framework the adjustment may instantly be made to adapt it to different epochs.

It is beyond the scope of the present paper to explain in detail the mechanism by which this adjustment is constantly being made by society.

[1] See the present writer's paper, "Values, Positive and Relative," Annals of the American Academy of Political and Social Science, January, 1897.

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Topical Digest of the Rig-Veda
A. H. Edgren

Spanish Verbs with Vowel Gradation in the Present System *A. H. Edgren*

The Oath of the Tennis Court
Fred Morrow Fling

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Topical Digest of the Rig-Veda.

By HJALMAR EDGREN.

Part I. Material or Visible Objects.

The magnificent progress achieved within the last thirty years in the exegesis of the Rig-Veda, and the attendant analysis of the life and culture of the Vedic people, is very largely due to the systematic sifting of the linguistic material of this ancient and yet in part obscure book. Boehtlink-Roth's great Sanskrit thesaurus and Grassmann's excellent vocabulary of the Rig-Veda furnished the material for the work; and Delbrück, Lindner, Lanman, Arnold, Haskell, and others have thrown a flood of light upon its grammatical, syntactical, and prosodial structure.

There is yet lacking a full topical classification of the Rig-Vedic words. Something indeed is done in this direction in Zimmer's excellent Altindisches Leben, but only enough to illustrate the author's exposition of ancient Hindu life, or to establish more exhaustively certain phases of that life and attendant conditions. But his word-lists, comprising slightly over eight hundred words (out of just about ten thousand), though serving well his purpose, are, of course, far from meeting the demands or serving the purposes of a complete topical digest of the Rig-Vedic words.

While investigating for other purposes some questions of Vedic antiquities, I was led to make a full collection of the Rig-Vedic words designating material or visible objects. It is the result of this work that is offered here. And it is further my intention to complete later the work thus begun by adding to this topical arrangement of the concrete words a similar digest of all the remaining material.

That such a collection is a desideratum will readily be admitted. By furnishing a ready access to all words of like or similar meaning, it will aid in the interpretative work; and by its exhaustiveness it will further a yet closer and more critical study of the life and surroundings of the Vedic people. For even if these are well and fully analyzed in their general features by Ziemer, in the work referred to above, and, in special phases, by others, such as Roth, Weber, Kaegi, Perry, etc., yet many things hitherto untouched, and many statements requiring elucidation, or even closer scrutiny and correction, will occupy the future investigator. One example will suffice to show that even the deductions of so careful an investigator as Ziemer may in some instances be subject to revision. His statement that the Vedic people had advanced far enough in agriculture to use irrigating ditches, to which Kaegi adds canals, is unsupported by any valid evidence, as far as the Rig-Veda goes. There are really no words there meaning canal or irrigating ditch. The only word adduced by Ziemer in support of his statements, the ἅπ. λεγ. *khanítra* (root *khan*, dig), even if of somewhat uncertain use in the hymn where it occurs, cannot mean ditch or canal, but rather, as given by the Petersburg, Grassmann, and native dictionaries, 'spade.'[1] The noun *khá* (root *khan*), which Grassmann renders by 'Rinne, Kanal,' is the only word that might at first sight suggest the idea of irrigating ditches. But an examination of its occurrences in the Rig-Veda shows at once that it means simply 'watercourse, stream,' and that it is used only figuratively in three of the four passages where it appears in this sense for the down-pouring rain.[2]

In arranging my material I have considered it best to follow the order suggested by naturally connected and sub-

[1] Cf. R.-V. I. 179. 6: **agástyaḥ khánamānaḥ khanítraiḥ prajắm ápatyam balắm icámānaḥ**, 'Agastya, digging with spades (*i.e.* toiling), desirous of progeny, of descendants and strength.'

[2] Cf. R.-V. II. 15. 3: **vájreṇa khắni atṛṇan nādínām**, 'with his bolt he (Indra) bored the course for the rivers' (*i.e.* shattered the clouds and set the

ordinated topics, and to give at the end of the whole treatise an alphabetical index. This first part accordingly contains a grouping of the concrete words, designating objects belonging to the animate world and to the inanimate, these being again subdivided under various heads, as pointed out below; and the second part will contain a classification of abstract and qualifying words. To be sure, there is no definite line to be drawn between the concrete and the abstract, many words on either side of the line being used now in one way, now in another. But for practical ends it is necessary to draw at least an arbitrary line. Thus, for instance, 'man' is simply referred to under the heading of animate life, while man in his various qualities and functions is relegated to the second part. Where words have various meanings they are, of course, arranged under various heads; and sometimes words of uncertain meaning are also thus arranged (then usually with an interrogation mark). Words occurring only in compounds or derivations have been given, but with an asterisk. In rendering the form of words with modern *y* or *v*, the older (or at least metrically required) *i* or *u* has been retained when supported absolutely or prevailingly by the text.

It was at first my intention to add derivations and places of occurrence, but, on closer consideration, this seemed supererogative, inasmuch as no Vedic student will be without the works where these things are already considered.

The material of this paper is arranged below under the following general headings:

I. Animate Beings.
   Man.
   Domestic animals.
   Other animals.

II. Body.

III. Inanimate Nature.
   Landscape, etc.
   Vegetation.

rain pouring); IV. 11. 2: **ví ṣāhy agne gṛṇaté manīṣāñ khám vépasā tuvijāta stávānaḥ**, 'O Agni, mighty Agni, object of my praise, stir the singer's devotion, a swelling flood' (lit. a flood by its agitation); IV. 28. 1: **avṛṇod ápihiteva khāni**, 'Thou (Indra) openedst the water-courses, dammed up as it were;' V. 32. 1: **ásṛjo ví khāni**, 'Thou (Indra) didst free the water-courses.'

Heavens.
Air and natural phenomena.
Color.
IV. Human Products.
Food and drink.
Ointments, etc.
Dress and ornament.
Dwelling, etc.
Tools, etc.
Vessels.
Weapons.
Musical instruments.
Boats.
Vehicles.

I. Animate Beings.

1. Living beings: **jīvá, sát.**

MAN.

2. Man: **nṛ́, mánus,** etc.: a special classification of words describing man in his various qualities and activities will be given later.

ANIMALS.

3. Animal (gen'ly): **padvát; ménā.**

Domestic Animals.

4. Herd: **paçavía, yūthá.**
5. Beast of burden (?): **pádi.**
6. Draught animal: **vadhū́, vā́hni, vóḍhṛ.**
7. Cattle (horned): **gó, páçu, -çú, cṛṇgín.**
8. Ox (bull): **ághnia, -niá, anadváh, ukṣán** (us'ly bull), **uṣṭṛ́, usrá, úsrika** (dim.), **ṛṣabhá** (or bull), ***vṛṣabhá, craúṣṭi.**
9. Cow: **ághniā, -niā́, usrā́, usríyā, gṛṣṭí, gó, *dughā, dhénā, dhenú, dákṣiṇā, pṛ́ṣat, rúp, róhṇi, váçā, vāçrā́, vṛjaní, starí, çyā́vī.**
10. Calf: **usríya, vatsá.**
11. Horse (mare): **átya** (-yā, f.), **açva** (-vā, f.), **açú, étaça, keçín, dákṣiṇa, patatrín, márya** (stallion), **rátbia, raghú, rohít,** f, **róhita, váhni, vā́ja, vājín, ví, vṛ́ṣan, vóḍhṛ, viáti, çóṇa, çyāvá** (-vā, f.), **cyā́vī,** f., **sápti, háya, hári, harít,** f., **hárita** (in dial. fig.), **árvat, -tī.**
12. Dog: **çván,** m., f.
13. Sheep: **aviká** (-kā́, f.), **úrā,** f., **meṣ-á, -ṣī,** f., **vṛ́ṣṇi.**
14. Lamb: **úraṇa.**
15. Wether (ram): **chā́ga, pétua, bastá, meṣá.**
16. Goat: **ajá.**
17. Ass: **gardabhá, rā́sabha.**

Other Animals.

18. Wild animal (gen'ly): **mṛgá, mṛgayás, çvā́pada** (better **çvápāda**).
19. Wild ass (?): **párasvat.**
20. Swine: **sūkará**
21. Boar: **varahá, varā́hu.**
22. Stag: **éna** (-ní, f.), **piçá, rúru.**
23. Antelope: **ṛçya, kṛṣṇá, rají** (?), **hariṇá** (gazelle); **kilā́sa** (?).
24. Hare: **çaçá.**
25. Buffalo: **úṣṭra, gaurá** (-rī́, f.), **mahiṣá** (máhiṣī, f.), **mṛgá, rají** (?).
26. Elephant: **mṛgá.**
27. Monkey: **kapí.**
28. Weasel: **kaçīkā́.**
29. Wolf: **vṛ́ka** (-kī́, f.).
30. Fox (?): **lodhá.**
31. Bear: **ṛkṣ-a.**
32. Jackal: **kroṣṭṛ́, lopāçá, sālāvṛ́kā** (hyena).
33. Lion: **siṅhá** (-hí, f.).
34. Mole: **ākhú.**

35. Ant: upajíhvikā, pipīlá, vamrá, vamraká (dim.), vamrī́.
36. Spider: *ūrṇavábhi.
37. Scorpion (?): ajakāvá, káñkata, kusumbhaká (?), vṛ́çcika.
38. Worm: adṛ́ṣṭa, kapañá (caterpillar).
39. Serpent: áhi, áhināman (serpent kind), ahī́, ābhogá, *pṛdāku, sarpá, hvārá.
40. Frog: maṇḍū́ka (-kī́, f.).
41. Bird (gen'ly or of uncertain kind): ciciká, tákvan, pakṣín, patāṅgí, patatrín, mārtāṇḍá, váyas, ví, vṛ́ṣāravá çakuná (esp. large), çakuntikā́ (dim.).
42. Bird of prey: tákvan, kṣvíṅkū, kuṇḍṛṇā́cī (?).
43. Water bird: ātí; madgú (diver).
44. Yellow bird (?): hāridravá.
45. Pigeon(?): kapóta.
46. Goose: haṁsá; cakravāká (ruddy goose).
47. Peacock: mayū́ra (-rī, f.).
48. Parrot: çúka.
49. Thrush (?): ropaṇā́kā.
50. Blue jay: kikidīví, cā́ṣa.
51. Quail: vártikā.
52. Owl: úlūka, khargálā, *çuçulū́ka.
53. Vulture: gṛ́dhra, çyená (or eagle?).
54. Eagle (falcon): çyená (or vulture?), suparṇá (?).
55. Winged insect: āraṅgará (bee), ṛ́dhupā́ (bee?), sará, *sarágh, sarát or -áḥ (bee); mákṣ, mákṣā, mákṣikā (fly, bee).
56. Fish: mátsya, vāruṇá (?).
57. Dolphin: çiṅçumā́ra.

II. Body (human or animal).

External Parts.

58. Body: tanū́, *kravya (corpse), cárīra.
59. Skin: tvác.
60. Members: áṅga.
61. Limb: gátra.
62. Head: mūrdhán (or skull), çíras, çirṣán, *kakāṭa.
63. Crown (of head): varṣmán, stū́pa.
64. Hair: *keṣa (or mane), róman, lóman.
65. Braid: *kaparda, stúkā.
66. Tuft: *çikhā, opaçá.
67. Horn: kū́ṭa, çṛ́ṅga.
68. Face: ánīka, āná, ās, prátīka (or front).
69. Cheek: hánu.
70. Eye: akṣán, ákṣi, akṣí, cákṣu.
71. Ear: çrótra.
72. Nose: nā́su, nā́sika (in dual).
73. Nostril: nā́sika.
74. Mouth (jaw): āná, ā́s, asán (or jaw), āsía (or jaw), kākúd (mouth cavity), sṛ́kvan (corner of), srákva (corner of).
75. Lip: óṣṭha, çíprā (dual).
76. Tooth: dát, dánta.
77. Tongue: jihvā́, jíhvikā (dim.), juhū́.
78. Beard: *çmáçāru, çmáçru.
79. Neck: grīvā́.
80. Shoulder: áṁsa, apikakṣá (shoulder region), çúpti.
81. Clavicle: jatrú.
82. Arm: karásna (forearm), dós (forearm), bāháva, bāhú, bharítra.
83. Elbow: arotní.
84. Hand: kará, kāçí (clenched), dákṣiṇa (right), pāṇí, hásta.
85. Finger: agrú, ánvi, *aṅgúri, *aṅgula, kṣíp, kṣípā, vríṣ, çárya, hári, harít.
86. Nail: nakhá (or claw).
87. Armpit: kákṣa.
88. Wing: *jaṅhas, pakṣá (or side), *patra, pátatra, parṇá.
89. Breast: oṇí, or oṇī́ (esp. mother's), stána (esp. woman's), vákṣas.

90. Bosom: upás.
91. Udder: ū́dhar, ū́dhan, ū́dhas, vāṇá.
92. Nipple: kū́cakra.
93. Waist: kákṣa.
94. Stomach: kúkṣi, pājasía.
95. Navel: nā́bhi.
96. Hip: ḉróṇi, sphigī́.
97. Buttock: kaçaplaká (of a horse), jāghána, bhā́ṅsas, bhasád.
98. Thigh: ūrú, sakthán.
99. Knee: jā́nu, aṣṭhivát (or knee-pan).
100. Leg: bāhú (fore-leg), bāhukṣád (fore-leg).
101. Foot: ayátha, carítra, pád, pā́da, pādú, pādaká (dim.), çaphá.
102. Heel: pā́rṣṇi.
103. Toe: prápada.
104. Hoof: pāṇí.
105. Back: pṛṣṭhá.
106. Penis: kápṛth, kapṛthá (only fig.), méhana, romaçá, çépa.
107. Scrotum: muṣká.
108. Pudenda: *dhānika.
109. Tail: *mayūra-çepa (peacock-tail), çépa.

Internal Parts.

110. Flesh: kravís, māṅsá, mā́s.
111. Brain: mastíṣka.
112. Spine: *anūka, anūkía.
113. Rib: kíkasā, párçu, pārçuá (region of), pṛṣṭí, márman, váñkra.
114. Bone: asthán. kulphá.
115. Joint: párvan.
116. Heart: hā́rdi, hṛ́d.
117. Lung: mátasna.
118. Entrails: *antra, āntrá, gúdā, vaniṣṭhú, hā́rdi.
119. Mucous membrane: *vapā.
120. Womb: gárbha, yóni, pātva.
121. Milt: plāçí.
122. Kidney: vṛklá (in dual).
123. Blood: asán, ásṛj, *kravi, *rudhi.
124. Marrow: majján.
125. Fat: médas, *vapā, pívan, and cf. 274.

Products of the Body.

126. Tear: áçru.
127. Sweat: svéda.
128. Semen: turī́pa, bī́ja, rétas, çukrá.
129. Egg: āṇḍá.
130. Egg membrane: úlba.
131. Content of the bowels: ū́rvadhya.
132. Excrement: niṣpád.

III. Inanimate Nature.

Landscape, etc.

133. Earth: gó, kṣā́, kṣā́man, kṣmā́, jīvaloká, pṛthiví, pradíç, bhū́, bhūmán, bhū́mi, -mī, mṛ́d.
134. Land (gen'ly): dhánvan, kṣétra.
135. Ground: budhná.
136. Field: ájra, jráyas.
137. Meadow: ā́yavasa, urvárā, náma, yávasa.
138. Pasture: gávyūti.
139. Cultivated field: kṛṣí, kṣétra, rájas, yáva.
140. Cattle region: gomatí.
141. Snow field (?): stiyā́.
142. Dale: nipā́dá, nivát, nivaná.
143. High place (hill): udvát.
144. Mountain: girí, párvata.
145. Mountain slope: parvát.
146. Mountain top: cf. Top.
147. Mountain foot: nīpá.
148. Rock: ádṛ, áçman.
149. Stone, áçman.
150. Wood: vána.
151. Tree: cf. Vegetation.
152. Bush: atasá, úlapa.
153. Water: *ámbu, ámbhas, úd,

udáka, udán, *adanya, udrá, ūrmí, nābhas, vā́r, viṣá, sáras, sirā́.

154. Sea (lake, pond): árṇa, arṇavá, árṇas, udadhí, viṣṭáp, samudrá, sáras, salilá, síndhu, hradá.

155. Sea bed: ūrvá, samudrá, sáras.

156. Pond (pool): *veçantā́, sáras, sarasī́.

157. Lotus lake (or pond): puṣkaríṇī.

158. River (brook): urṇavá, aváni, udadhī, kulyā́, kṣoṇī́, -ní, jīrí, dhā́ra, nadí, jā́hvī, rasā́, váṇa, várīman, vahát, sarít, sasyád, síndhu, svavát, srutí, srū́, srótas, srotyā́.

159. Water course: khá, prādhvaná.

160. Watering place: tirthá.

161. Fall: *urṇāça.

162. Well (source): avatá, útsa, udadhí, khá, dhotí, nabhanú, -nū, vavrá.

163. Spout: ucchvāsá, bhurváṇi, *vivartá.

164. Drop: udameghá, draspsá, pṛ́ṣat, stoká.

165. Bubble: *bubuda.

166. Bank (shore): anūpá, aváni, dhánu, dhánvan, *rodha, ródhas.

167. Island: dvīpá, dhánu.

168. Abyss: āraṇa, kṛtá, párçāna.

169. Hole (pit, cleft): kartá, kāṭá, kévaṭa, khá, ṛçvadá, valá, vavrá, vavrí, vivará, vívari, vṛjána, velasthaná, çmaçā́, çmaçāná.

170. Cave: ākhará, bíla.

171. Top (of mountain, trees, etc.): kakúd, kakúbh, pṛṣṭhá, mūrdhán, róhas, sánu, snú.

172. Way: áyana, éman, páth, pathí, -thi, pathíā, pánthā, *yātha, vartaní, vártman, vyáthis, vrájana, srutí; (trace) padavíya, pádya.

173. Course: ājú, kāṣṭhā; furrow: sī́ta.

174. Juice: rása.

175. Clump: logá.

176. Dust (dirt): kṣudrá, kiráṇa, *paṅsú, *riprá, répas.

177. Nest: vasatí, svásar.

VEGETATION

178. Wood (forest): vána.

179. Tree: drú, ván, vána, *vanar, vánaspáti, vanína, vṛkṣá; sthānú (stump of).

180. Wood (material): édha, kṛ́pīta, dā́ru, samídh.

181. Fig tree: açvatthá.

182. Acacia: khadirá.

183. Dalbergia sisa (tree): çiṅçápā.

184. Casolantes indica (tree): *araṭu.

185. Salmalia malabarica (tree): çalmalí.

186. Butea frondosa (tree): *kiṁçuka.

187. Terminalia bellerica (tree): vibhīdaka.

188. Oleander: *açvaghna.

189. Nut tree (kind of): kākambírа.

190. Bush: átasa, útapa.

191. Plant (gen'ly): ándhas, óṣadhi, -dhī, kṣúmpa, ván, virúdh.

192. Flower: *púṣpa, *púṣia.

193. Creeper: líbujā, vratáti.

194. Bean: *mudgá.

195. Lotus: puṇḍárīka, púṣkara.

196. Plant (of uncertain kind): pakádūrā, maṇḍūká.

197. Soma: aṅçú, *çaryaṇā́; cf. also Soma drink.

198. Grass: yávasa; dū́rvā (Panicum dactylon), balbajú (Eleusine indica), *vīriṇa (Andropagon muricatus); darbhá (tuft of grass).

199. Straw (litter): prastará, barhís.

200. Thorn: *ṛkṣara.

201. Rush: *iṭa, kúçara, naḍá, múñja, seriá (?).

202. Cane (reed): vaṅçá, vā́ṇi, vetasá, veṇú.

203. Lichen (?): vándana.

204. Seed: bī́ja.

205. Root: *mū́ra, mū́la.

206. Rootlet: *bisa.

207. Shoot: chúbaka, rúh, *válça.

208. Branch: rúh, vayā́, *válça, çā́khā.

209. Joint (of a stem, etc): **párus, párvam.**

210. Marrow (inner part of stem): **majján, sā́ra.**

211. Leaf: **parṇá, *palāçá.**

212. Fruit: **gárbha, phála, çimbalá.**

213. Berry: **píppala, prasū́.**

214. Nut: **vibhī́daka** (Terminalia bellerica).

215. Grain: **dhānā́, dhānía, yáva, sáktu**; sheaf of: **parṣá.**

216. Gourd: **urvāruká.**

Metals.

217. Metal (copper ?): **ájas, rájas** (?) (cf. Ziemer, Altind. L., p. 55).

218. Gold: **candrá, rukmá, hiraṇya, hiraṇya-piṇḍú** (gold lump).

Heavens.

219. Heaven and Earth: **dyā́va-kṣā́m, dyā́va-pṛthivī́, dyā́va-bhū́mi.**

220. Heaven: **áçman, dyú, nā́ka, vídharman, vío man, suargá,** (slope of) **pratihvará.**

221. Sun: **arká, patañgá, rátha, rukmá, sū́ra, sū́rya, suryá, hári.**

222. Moon: **candrámas, mā́s.**

223. Star(s): **árjuna** (cluster), **ṛ́kṣa** (Bear), **gó** (pl.), **náksatra, rāçí** (cluster), **stár.**

Air and Natural Phenomena.

224. Air: **antáriksa, árṇas, askambhaná, rájas, rocaná.**

225. Sunshine (ray): **amáti, ásira, kiráṇa, ghraṅsá.**

226. Light: **jyótis**, etc.; treated separately.

227. Dawn: **ús, usás, uṣ́, uṣā́, usrā́,** gó (pl.), **dákṣinā.**

228. Cloud: **ádri, abhrá, abhríya, udahí, ū́dhar, ūrvá, jīmū́ta, dhánu, dvipá, nábhas, phaligá, párvata, parjánya, mṛkṣín, meghá, varṣía.**

229. Fog: **ū́dhan, nábhas, nīhārá, míh.**

230. Lightning: **átka, abhríya, arká, vájra, vṛ́ṣandhi** (?), **hári.**

231. Rain: **abhraprúṣ, míh, varṣá, vṛ́ṣ, vṛṣṭí.**

232. Hailstorm: **prādúṇi.**

233. Snow: **himá.**

234. Wind: **nihā́kā, vāṇī, vāta, vāyú, hrādúṇi.**

235. Dew: **dā́nu.**

236. Fire (flame): **agní, *athar, atharí, árkaçoká, arcí, arcís, *indhana, ulkā́, ṛ́ṣú, ketú, jūrṇí, pavā́, vakṣí, vivásman, *çokas, çocís, samídh.**

237. Spark: **drāpsá, viṣpulíṅga.**

238. Glowing coal: **ádri.**

239. Smoke: **dhūmá.**

Color.

240. Color (gen'ly): **rūpá, várṇa.**

241. White: **árjuna, çyetá, çvetá, çvétarī** (?).

242. Bright: treated separately.

243. Black: **kṛṣṇá.**

244. Black and blue: **nī́la.**

245. Blackish: **nī́lavat.**

246. Fire-colored: **agniçrí, ā́ghṛṇi, çóna, hári, harít.**

247. Gold-colored: **piçáṅga, picáṅgarūpa, harí, háritas.**

248. Yellow: ***piṅga, hárita, hári.**

249. Dark brown: **cyāvá.**

250. Brownish: **kapilá, udumbalá.**

251. Reddish brown: **babbrú.**

252. Blood-red: ***rudhirá.**

253. Red: **rohít, róhita, *lóhita.**

254. Dark red: **nīlalohitá.**

255. Speckled: **çabála.**

256. Snake-shining: **ahíbhānu.**

IV. Human Products or Uses.

Food and Drinks.

257. Food (gen'ly): átra, ádana, ádman, *adya, ánna, ābhagáya, kṣá, ghāsí, psáras, *posas, *psu, psúr, bhójana, martabhójana, váyas, várdhana, sasá; (sacrificial meal) miyédha, vītí, etc. (cf. Sacrifice).

258. Flesh (meat): māṅsá, más, píṇḍa (lump of flesh, at sacrifices): cf. also Animals.

259. Stew: odará, karambhá.

260. Soup: yūṣán.

261. Egg: āṇḍá, *mar[illegible]āṇḍa.

262. Butter (cream): ghṛtá, pṛṣadājiá, sarpís.

263. Honey: mádhu.

264. Drink (gen'ly): avapāna, āsutí, iḍ, iḍā, íṣ, *gara, paripāna, *pāna, paúta, *pāyia, pitú, pītí, pīthá, *paya, prapā, bhakṣá, rása, *sabar, séka.

265. Intoxicating drink: máda, súrā.

266. Sweet drink (mead): mádhu.

267. Fat drink: ūrj, pívas.

268. Soma drink: aṅçú, áṅsatrakoça, ándhas, dhārā, krátu, rása, sávana, sóma, somiá.

269. Sacrificial drink: havyá.

270. Milk: āçír, ustríyā, gó (pl.), ksīrá, gopīthá, gharmá, dhénā (pl.), dheniá (pl.), páyas, pīyūṣa, mádhu.

271. Sour milk: dádhan, dádhi.

272. Scum: púṣia, phéna.

273. Nectar: rása, *sabar.

Ointments, etc.

274. Fat, ointment: aktú, ájia, áñjas, añjí, áñjana, gó, pívari, pívas, médas, sarpís.

275. Sacrificial offering: ájia, āhávana, áhuti.

276. Medicine: bheṣajá.

277. Poison: *āla, viṣá.

Dress and Ornament.

278. Robe (gen'ly): átka, vásana, vástra, vásman, vāsas, vṛjána (?)

279. Ornamental dress: nirníj, vádhūya.

280. Cloak: adhivāsá.

281. Embroidered dress: péças.

282. Worn (or dirty) dress: mála.

283. Woollen shirt: çāmulía.

284. Hem of a dress: síc.

285. Ornament (gen'ly): píç, péças, rukmá (of the Maruts).

286. Gold ornament: híraṇya.

287. Ring (arm, etc.): khādí (of the Maruts).

288. Ear ornaments: karṇaçóbhana.

289. Neck ornaments: níṣká (golden, also used as coin), maṇí (of pearls or precious stones).

290. Precious stone: áçman.

291. Pearl: kṛṣaṇa.

Dwelling, etc.

292. Dwelling: āsá, ksá, ksití, gṛbhá, grhá, *gehá, dám, dáma, duroṇá, dhāman, páthas (of gods), *prasadman, mána, vás, vasatí, vāsá, vástu, víç, véçman, veçía, çáraṇa, çárman, sádana, sádas, sádman, sadhástha, sādana, sthāna, harmiá: cf. also Home.

293. Home: ásta, ástatāti, ókas, okía, nivéṣana: cf. also Dwelling.

294. Birthplace: janítra, jāna.

295. Resting place: āsá, jásu, *tálpa.

296. Meeting-house: sabhā.

297. Stronghold: púr, sthirá; cf. pāsía, çárman.

298. Shed (roof): çaraṇá, çaraṇiá.

299. Prison: harmyá.

300. Stall: gotrá, gosthá, ūrvá, gótra, pastía, vrajá, svásara.

301. Cart-shed: vána.

302. Barn: khála.

303. Tent (?): *pavásta (in dual, heaven and earth, cf. B. R.).

304. Slaughter place (?): çásana; cf. B. R.

305. Village: grāma.

306. Entrance: nivéçana.
307. Door: dúr, dvā́r.
308. Door fold: *arasi, dvā́r (in dual).
309. Door frame: ā́ta.
310. Door bolt: ararínda.
311. Hearth: āṣṭví, sádman.
312. Inner sanctuary: āródhana, nā́bhi.
313. Sacrificial place: vṛjána.
314. Altar: védi.
315. Treasury room: vásudhiti.
316. Prop: upamít, mít, skambhá, skámbhana.
317. Beam: vaṅçá, yū́pa.
318. Pillar: sthūṇa.
319. Bank: dehí, ródhas, sandíh.
320. Bridge: sétu.

Tools, etc.

321. Stone crusher (grinder): ádri, áçna, úpala, dhṛ́ṣad, vánsaspáti.
322. Mortar: ulūkhala, ulūkhalaka (dim.), vánaspáti.
323. Soma-press: oṇí, grā́van, jámbha, pāsía (pl.).
324. Stone hammer, etc.: áçman.
325. Axe: kúliça, paraçú, váci, svádhiti.
326. Knife: kṣádman, kṣurá, áyas (?).
327. Sickle (scythe): dā́tra, bhuríj, sṛṇi, srṇí, párçu.
328. Whetstone: kṣṇótra.
329. Edge: áçri, téjas, dhárā.
330. Spade: khanítra.
331. Awl: ā́rā.
332. Needle: veçí.
333. Spoon: upasécānī, juhū́, púṣkara (head of), srúc, sruvá.
334. Spit: níkṣaṇa.
335. Twirling stick: mathí.
336. Friction-stick (for kindling): adhimántana, aráṇi, aráṇī, vána, pavítra (?)
337. Comb: káṅkata.
338. Broom: svapū́.
339. Goad (prick): áṣṭra, códa.
340. Whip: açvājanī, káçā, códa.
341. Curry-comb: mṛksá.
342. Bridle: abhíṣu, yantrá, yáma, raçaná, raçmán, raçmí, sandā́na; and cf. Band.
343. Spur: kíja.
344. Cowhide: gó.
345. Cover (hide): meṣí, çárman, vā́sas (horse-cloth), upstáraṇa.
346. Wool: ū́rṇā.
347. Pillow: upabárhaṇa.
348. Rope: pā́ça, yóktra, yogiā́, rájju, varatrā́.
349. Band (fetter): gó, dā́man, nádh, nidā́na, náh, bandhá, pádbīṣa, yantrá, sétr, syā́man.
350. Snare (net): nidhā́.
351. Thread: tántu, tánti (string).
352. Basket: sūnā́.
353. Braiding: hváras, balbajastukā́.
354. Sieve: áṇva, kārotará (strainer), títau (grain fan?), pavítra, pávyaya, vídharman.
355. Garland: sráj.
356. Warp: tántu, tántra.
357. Web (texture): vayúna.
358. Banner: ketú, dhváj, dhajá.
359. Bench: *próṣtha.
360. Chair (seat): gárta, sádas, váhya.
361. Swing: preṅkhá.
362. Slaughter bench: saṁskṛtatrá.
363. Post: drupadá, *hariyū́pa; *sacrificial: médha, vánaspáti, yū́pa, sváru.
364. Rod: daṇḍá, çamiā́; measuring: téjana.
365. Bill of wood: dā́ru.
366. Clamp: bhuríj, vánaspáti.
367. Ball (of wool): drughaṇá.
368. Peg: mayū́kha.
369. Hook: aṅkí, ankuçá.
370. Chip: bílma.
371. Sign: lákṣa, *lakṣman.
372. Binder (?): náhana.
373. Wood-pile: vanádhiti.

Vessels.

374. Vessel (gen'ly): pā́tra, phaligá, drú.

375. Drinking vessel (cup, etc.): **pátra, kaláça, camasá, camū́, drú, bhákṣaṇa.**
376. Pitcher (mug): **kaláça, *kuṇḍá, kumbhá, carú.**
377. Pot (pan): **ukhā́.**
378. Bowl: **āsécana, kóça, drú, neṣṭrá, potrá, cā́da.**
379. Kettle: **gharmá.**
380. Vat (bucket): **āhávā, dróṇa; undáncana, kóça, sáras.**
381. Barrel: **kávanda.**
382. Box: **kóça, *çayī.**
383. Leather bag: **tvác, krívi (?).**
384. Grain measure: **kharī́.**
385. Bushel (?): **ū́rdara, sthiví.**
386. Ear (of vessels): **kárṇa.**

Weapons.

387. Weapon (gen'ly): **áyudha, *pavīra, vadhá, vádhatra, vadhánā, hánman.**
388. Axe: **vā́çī**; and cf. Tools.
389. Dagger (knife): **kṛ́tí, áṣṭrā.**
390. Sword: **así, párçu, áyas (?), *kṛpāṇa.**
391. Spear (lance): **ṛṣṭí, kṣipanú** (for hurling), **pávīrava (?), çū́la, hetí** (for hurling), **rambhín (?)**
392. Lance handle: **midhá (?).**
393. Missile (gen'ly): ***astrá, asaná, pakṣín, samíṣ, sárga, sā́yaka, sṛká, sénā, héṣas.**
394. Stone-bolt: **ádri, áçan, açáni, áçman, áçmahanman** (Indra's) **vájra** (thunder-bolt).
395. Bow: **dhánvan, dhánus, sthirá.**
396. Bowstring: **godhā́.**
397. Arrow: **asaná, íṣu, téjana, didyú, didyút, çaraníā, çárya, çáryā, çalyá, çárī, stegá.**
398. Arrow-head: **téjana, dánta.**
399. Arrow feather: **parṇá.**
400. Quiver: **iṣudhí, *niṣaṅga.**
401. Point: **açánt, paví, bhṛṣṭí.**
402. Hand protection (against the bowstring): **hastaghná.**
403. (Wooden) ball: **drughaná, vighaná, ghaná.**
404. Battle chariot: **rátha.**
405. Armor: **várman.**
406. Shoulder plate: **áṅçatra.**
407. Breast plate (?): **vákṣas.**
408. Visor: **çíprā.**

Musical Instruments.

409. Pipe: **nāḍī́**; bagpipe (?): **bākurá, dṛ́ti.**
410. War trumpet: **bákura, vāná, sasarparī́.**
411. Drum: **dundubhá.**
412. Cymbal: **āghāṭí.**
413. Lute: **karkarí, gárgara.**
414. Lute string: **godhā́.**

Boats.

415. Boat: **dā́ru, náu, pakṣín, plavá.**
416. Rudder: **drú.**

Vehicles.

417. Plough: **lāṅgala, vṛ́ka, sīrá.**
418. Ploughshare (?): **paví, phála.**
419. Wagon (cart): **ánas, kā́pā (?), yāna, rátha, vánaspáti (?), syandaná.**
420. Wagon frame: **rathavā́hana, vána (?).**
421. Wagon cover: **chadís.**
422. Wagon seat or stand: **gárta, vandhúr, vandhúra.**
423. Wagon box: **kóça, kóçayī, yāmakoçá, rathacárṣaṇa (?).**
424. Wheel: **cakrá, ráthya.**
425. Wheel rim: **nemí, pradhí** (or felloe).
426. Wheel ring: **paví, vartaní.**
427. Nave: **nábhya, nā́bhi.**
428. Spoke: **arā́**; spokes (coll.): **upadhí.**
429. Wheel box (for spokes): **khá.**
430. Axle: **ákṣa, vánaspáti (?)**
431. Axle hole: **āṇí.**
432. Pole, shaft: **īṣā́, gábhasti, dhúr,** (forepart of) **prá-uga, vāṇī.**
433. Cross-piece (of the pole): **dā́ru, pratidhí**; (dual) **vāṇī.**
434. Line: **yogíā, raçaná, raçmí.**
435. Harness (yoke): **yójana, yugā́, raçaná, raçmí.**
436. Bridle: cf. 342.
437. Strap: **kakṣía, varetrā́.**
438. Wagon part (?): **pātalía.**

SPANISH VERBS WITH VOWEL GRADATION IN THE PRESENT SYSTEM.

BY A. H. EDGREN.

While vowel gradation (especially diphthongization) in the present system of certain verbs is rare in French, where once it was of frequent use, and yet more in Italian and Portuguese, it is very common in Spanish. Indeed, counting both simple and compound verbs, the Castilian yet contains some 400 such verbs, and their mastery is quite a serious task to the beginner of this language. To be sure, the difficulty is insignificant, or rather none at all, where the object of the grammar study is simply to recognize all the verb forms in reading. For it is then reduced to learning the key verbs of three stem-changing conjugational groups, with some few irregularities. But the task is quite different when the object is to distinguish positively, for purposes of composition or otherwise, whether a verb is stem-changing or not, since this implies a distinction between many hundred variable and invariable stems with the the same thematic vowel.

Purely scientific treatises have determined the leading principles governing the stem change, but they have hitherto considered the subject too exclusively with reference to verbs subject to vowel gradation and less with reference to verbs with similar formation that have no such gradation. In fact, there exists no exhaustive investigation of the whole field. Moreover, strictly scientific treatises are for the philologist and not for the learner, to whom their results will be of little use until they have leavened the material of the practical grammar. Some grammars, indeed, of a scientific cast[1] have applied to a certain extent the results gained by historical research, but with the same one-sidedness, and, it should be

[1] e. g., Förster's Spanische Sprachlehre.

added, chiefly on the imperfect basis laid by Diez. But by far the greater number of practical grammars content themselves with simply giving more or less complete alphabetical lists of stem-changing verbs, which are not likely to be used except for reference.

Does historical grammar furnish any clew for a successful practical classification of the stem-changing Spanish verbs considered here? If so, this certainly would be the most welcome aid. In examining this question it will be well to leave out of account for the present all *ir*-verbs that modify their *e* or *o* in analogy with *decir*, for they offer no difficulty whatever, and to consider those verbs that diphthongize their stem-vowel when tonic.

Diez, briefly stated, lays down the following rule for the diphthongization.[2] Latin short tonic *e*, *o* (less often *i*, *u*) change, to *ie*, *ue*, especially before *l*, *m*, *n*, *r* or *s* followed by another consonant. This principle is now so far modified as to limit the primitive change to Latin short *e*, *o*, and to assign the lack of change, or its reversion, to certain phonetic or analogical conditions.[3]

Now, even if this principle could be used in its simple form and without complicating considerations, in testing all verbs in question, it would be useless to non-classical students, and of limited avail even to classical. But, as a matter of fact, the quantity of Latin tonic *e*, *o* is far from being a safe criterion for determining their treatment in modern Castilian verbs. Though it is true that these vowels when short are generally diphthongized in early Spanish, a mass of words have come into the language after that law ceased to be operative, many dialectic influences and borrowings have occurred, and changes by analogy taken place, and thus the subject, far from being at the command of the ordinary classical student, is in many instances yet a puzzle to the experienced philologist.

To be sure, most of the modifiable Spanish *e* and *o* vowels

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2 Diez Grammatik der Romanischen Sprachen, pp. 527, 127, 135.

3 Cf. Baist in Gröber's Grundriss der Romanischen Philologie, I. p. 74.

are yet tracable directly or indirectly to Latin short *e* and *o*, but about as many unmodifiable *e* and *o* are traceable to the same source. The facts are as follows. Waiving some verbs of uncertain derivation,[4] nearly 100 simple stem-changing verbs have their *e* and *o* from Latin short *e* and *o*, two from Latin *æ* (in popular Latin coalescing with short *e*),[5] twelve from Latin long *e* and *o*,[6] and eleven from Latin short *i* or *u*.[7] Among hundreds of Spanish verbs with unmodified thematic *e* and *o* (under the letter A alone occur above 160, simble and compound), a very large number have these vowels from Latin short *e* and *o*. Some fifty such verbs are given below in a foot note as examples, and to show their similarity of form to the stem-changing verbs.[8] Besides, not a few verbs are in different uses treated differently (cf. list at the end).

We are then but poorly helped by the original quantity of the thematic vowel. But Diez adds that this vowel, when

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4 *Transegar; alentar, jimenzar; enhestar; tropezar clocar* (onomat?) *trocar, dolar, regoldar.*

5 *Cegar* (*L. cœgare*), *querer* (*L. quærere*).

6 *Heder* (*L. fetere*), *sembrar* (*seminare*), *derrengar* (*-re*), *erguir* (*erigere*), *cerrar* (*serare*), *manifestar* (*-festare*), *colar* (*colare*), *consolar* (*-solare*), *desolar* (*-solare*), *moblar* (*mobiles*),, *tostar* (*tostus*), *mostrar* (*monstrare*).

7 *Estregar* (*L. stringere*), *fregar* (*fricare*), *plegar* (*plicare*), *regar* (*rigare*), *nevar* (*nivis*), *hender* (*findere*), *alenzar* (*linteum*), *comenzar* (*cuminitiare*); *hollar* (*fullare*), *agorar* (*augurare*), *avergonzar* (*verecunda*).

8 *Colocar* (*L. -locare*), *provocar* (*-vocare*), *acomodar* (*-comodare*), *anegar* (*-necare*), *interrogar* (*-rogare*), *modelar* (*modellus*), *inmolar* (*-molare*), *devorar* (*-vorare*), *profesar* (*-fessus*), *disposar* (*-positus*), *retar* (*reputare*), *elevar* (*-levare*), *llevar* (*levare*), *inovar* (*innovare*), *celebrar* (*celebrare*), *arredrar* (*retro*), *medrar* (*meliorare*), *amoldar* (*modul-*) *arollar* (*rotulus*), *refrendar* (*referendus*), *ofender* (*offendere*), *prentender* (*-tendere*), *engendrar* (*ingenerare*), *diptongar* (*diphthongus*), *prolongar* (*longus*), *aprensar* (*pressus*), *adecentar* (*decent-em*), *detentar* (*-tentus*), *inventar* (*-ventus*), *presentar* (*present-em*), *atontar* (*attonitus*), *confrontar* (*front-em*), *montar* (*mont-em*), *asorber* (*asorbare*), *exacerber* (*acerbus*), *aporcar* (*porco*), *alternar* (*alternare*), *encuardernar* (*quaternus*), *tornar* (*tornare*), *aterrar* (*terror*), *desertar* (*—sertus*), *insertar* (*-sertus*), *libertar* (*libertus*), *abortar* (*-ortus*). *importar* (*-portare*), *conservar* (*-servare*), *contestar* (*-testare*), *secuestar* (*sequestare*).

modifiable, usually precedes *l*, *m*, *n*, *r*, or *s* and another consonant. If this qualification, as characteristic of stem-changing verbs, were accordant with actual facts, it would furnish us a most welcome aid in recognizing by their form these verbs. Unfortunately, however, it is of absolutely no value as a criterion in the case considered. In the first place, not much more than one-half of the stem-changing verbs show the form described by Diez, their modifiable vowels being followed by any single consonant except *f*, *h*, *k*, *x*, and by *br*, *dr*. In the second place,, and what is more fatal, the unmodifiable *e*, *o* are also followed. without any significant distinction as regards frequency or combination, unless sporadically, by precisely the same consonants or consonant-groups. A rapid examination of all the verbs under A with an unvaried thematic *e*, *o* shows that these vowels are there followed by the same simple or compound consonants as the stem-changing verbs, and by very few others. And a glance at the 50 verbs quoted in support of the fact that the Latin themetic short *e*, *o* very frequently remain unchanged under the accent in Spanish verbs, show the same thing. Nor does it appear that there is any other difference of form or phonetic surroundings that can serve as a basis for a broad, practical distinction between the variable and invariable stems. A few distinctions, however, which will serve at least to mark off quite a number of verbs with themetic *e*, *o* as not belonging to the stem-changing class should be noticed here. Foremost among these is the important, and yet apparently unobserved, fact that in a majority of stem-changing verbs it is the radical and not the termination vowel that is modified, while in the other verbs it very frequently is the termination vowel, a very large percentage of these verbs having been formed by secondary derivation when the period of vowel gradation had passsed in Spanish. In only 21 stem-changing verbs, most of them ending in *-endar*, *-entar*, the varied vowel is terminational[9]. Farther, the modifiable vowel is never in hiatus or followed by any other surd mute than, in a few sporadic cases, *c*, *t*; and, when *c*, never

[9] Cf. list, p 7.

preceded by *c*, *j*, *ll*, since these sounds, as in other inflections, absorb a following *i*, It might be added, though of very little practical consequence, that a few verbs of similar form, viz. those in *-olgar*, *-oler*, *-over*, *-olger*, *-erir*, *-entir*, *-ertir*, *-ervir* are all stem changing, while some others, as those in *-ebar*, *-eber*, are invariable.

On the whole, therefore, the attempt to make a sufficiently broad distinction between varying and unvarying verb-stems by the criterion of external form leads, so far as I can see, to a negative result. Is there any other criterion left? The grammar of the Spanish Academy, without any reference to historical reasons for this distinction, simply points out that the stem-changing verbs may be recognized by the fact that nearly all of them have cognate nouns with modified vowel. To this rule there are indeed only a dozen exceptions,[10] mostly for verbs with original long *e*, *o*, and about 50 stem-changing verbs are actually denominatives derived from nouns with modified stem-vowel. It may, therefore, be of some suggestive importance to the student as he advances; but it would of course afford no help to one yet unfamiliar with the language.

Thus, even though able to recognize with little effort a great number of verbs with unmodifiable themetic *e*, *o*, or determining a very few and small classes of nothing but stem-changing verbs, or vice versa, and of finding some suggestive aid in cognate noun-forms, we are after all forced back upon the necessity of full lists of the stem-changing verbs. These lists however, may be so arranged as to facilitate considerably their gradual acquirement (when desired at all) by adopting some more suggestive method than the ordinary alphabetical, by giving only simple verbs (preceded by a prefix if occurring only in compounds), and by indicating any group that may happen to comprise only stem-changing verbs, and, finally, by marking for early study all verbs of more common occurence. By this method the small homotype groups are easily learned, the whole list, which comprises some 400 verbs, being re-

[10] *Entregar, negar, colar, podrer, podrir, empezar. derengar, apacentar. erguir, cerrar, hervir. tostar.*

duced to nearly 100, and the list of the more common stem-changing verbs to about half, or less, of that number, according to the estimate of what verbs should be considered important, which of course will vary for varied purposes.

Such an arrangement (omitting the marking of 'important' verbs) is suggested—among others possible—below.

I. AR VERBS.

Radical *e* or *o* before

b: *probar*;[11]
c; *clocar*, *des-flocar*, *trocar*;
d: *rodar*;
g: *cegar*, *fregar*, *negar*, *plegar*, *regar*, *segar*, *rogar*, (comp's reg.);
n, *ñ:* *sonar*, *tronar*; *soñar*;
r: *encorar*, *a-forar*, 'privilege' ('gauge,' etc., reg.) *a-gorar*, *en-gorrar;*
s: *confesar*, *tra-vesar*, *engrosar*, *des-osar* 'free from bones;'
t: *a-pretar;*
v: *nevar*, *en-covar*, *re-novar*;
z: *des-pezar*;
bl: *moblar*, *poblar*;
br: *quebrar*;
dr: *em-pedrar*;
lc: *volcar*;
lt: *soltar*;
nd: *co-mandar*, *ar-rendar*;
ng: *a-longar*, *de-rengar*;
ns: *in-censar*, *pensar* (*com-*, *re-*);
nt: *de-centar*, *dentar*, *mentar*, (*co-*, *de-*, reg.) *tentar*, (*a-* '*plot*', *con-*, *de-*, *in-*, reg.) *contar*;
nz: *com-enzar*, *en-lenzar*;
rb: *erbar*;
rc: *em-porcar*;
rd: *a-cordar*;
rn: *in-fernar*, *a-pernar*, *invernar*;
rr: *cerrar*, *errar*, *ferrar*, *herrar*, *serrar*, *a-terrar*, ('frighten,' reg.);
rt: *a-certar*, *des-pertar*, *entortar*;

[11] Compounds are understood to be indicated, unless special exceptions are stated. Verbs not occurring single are given with a hyphened prefix (other compounds, when there are any, again understood.)

ld: *regoldar*, *soldar*;
lg: all;
ll: *a-colar*, *follar* 'blow,' *de-gollar*, *hollar*, *des-ollar*, *re-sollar*;
rz: *forzar*, *al-morzar*;
st: *mani-festar*, *en-hestar*, *a-testar* ('testify,' reg.), *costar*, *a-costar*, *de-nostar*, *a-postar* ('post,' reg.), *tostar*;
ndr: *des-tendrar*;
ntr: *encontrar*;
str: *a-destrar*, *mostrar*.

Terminational *e* or *o* before

l: *azolar*, *remolar*, *des-majolar*;
nd: *hacendar*, *merendar*;
nt: *alentar*, *calentar*, *es-carmentar*, *cimentar*, *a-crescentar*, *a-pacentar*, *em-parentar*, *regimentar*, *salpimentar*, *en-sangrentar*, *sarmentar*, *sementar*;
nz: *avergonzar*;
rn: *gobernar*.

II. ER VERBS.

Radical *e* or *o* before

c: *cocer*;
d: *heder*;
(*o*)*l*, (*o*)*lv*, (*o*)*v:* all;
rd: *en-cender*, *de-fender*, *hender*, *a-scender*, *tender* (*pre-*, reg.);
rc: *trocer*;
rd: *perder*, *morder*;
rn: *cerner*;
rt: *verter*.

As indicated above, the treatment of the *ir*-verbs with radical *e*, *o*, is very simple, and no lists are needed. The rule is:

All verbs with radical *e* followed by *-nt*, *-r*, *-rr*, *-rt*, and *morir*, *dormir* with radical *o*, change *e*, *o*, when tonic, to *ie*, *ue*; and when, atonic to *i*, *u*, unless the vowel of the next syllable is *i*; and

All other *ir*-verbs with radical *e*, and *podrir* with radical *o*, change *e*, *o*, when tonic, to *i*, *u*; and when atonic to *i*, *u*, unless the vowel of the next syllable is *i*.

THE OATH OF THE TENNIS COURT.

FRED MORROW FLING.

What was the significance of the Oath of the Tennis Court of June 20th, 1789? Was it, as Professor Robinson maintains in his interesting paper,[1] "in reality, only a slight although important advance beyond the state of affairs on June 19th?" Does "the importance of this resolution lie in the fact that it was the first distinct and formal recognition of the Assembly's mission?" Is it true that "all that is apparently novel in the Tennis Court Oath is the clear enunciation that the establishment of a constitution is the essential task of the Assembly?"[2]

Or is Champion right when he affirms that this "fatal oath was in truth a challenge hurled at the monarchy, a veritable signal of insurrection; that the 20th of June opens the drama that will end with the overthrow of the monarchy!"[3]

These interpretations are clearly quite antagonistic. Which, then, is the true and which the false? Champion is supported by Aulard,[4] Cherest[5] and other French writers; Professor Robinson, as far as my knowledge goes, stands alone. But such a question cannot be settled by numbers nor by authority. Both interpretations find support in the oath itself. The deputies swore "never to separate * * * until the constitution of the kingdom shall be established and placed on a firm foundation." This would seem to justify the first interpretation. But the opening words of the oath—"The National Assembly, regarding itself as called upon to establish the constitution of

1 Annual Report of Am. Hist. Association, 1894, pp. 541-547.

2 Ibid, pp. 541, 542.

3 Brette, A.: Le serment du jeu de paume. Paris, 1893. Avant propos by Champion, p. vi.

4 Aulard, F. A.: Études et leçons. Paris, 1893. p. 35.

5 Chérest, A.: La chute de l'ancien régime. 3 vols. Paris, 1884-1886. iii, 197.

the kingdom, effect a regeneration of the state, and maintain the true principles of monarchy, may not be prevented from continuing its deliberations in whatever place it may be forced to take up its sittings,"[6] clearly bear out the last interpretation. What, then, was the intention of the Assembly, simply to *announce its mission* or to declare that *nobody should prevent it from fulfilling its mission?* Which point was the essential one in the oath?

To assert, without support from other evidence, that either interpretation is the only true one, would be arbitrary procedure. Such a procedure would be a violation of the commonly accepted rules of historical method. By a study of the oath in its historical setting, and by no other means, shall we be able to decide between the two interpretations.

That the purpose of the States-General was to form a constitution was an idea firmly fixed in the minds of the people on the eve of the convocation of the Assembly.[7] This is established beyond the possibility of a doubt by a great mass of cahiers and pamphlets.[8] Another thing especially clear was the idea that nobody had the right to prevent the Estates from accomplishing that purpose.[9] It was denied by the framers of the cahiers that "the Estates could be dissolved by anybody but themselves"[10] or that "any authority could dissolve the National Assembly without its consent."[11]

When the Estates assembled in Versailles in May, the deputies of the Third Estate were not hostile to the king. Aulard has shown by an abundance of evidence, that primarily the movement was not antimonarchial.[12] So far as any hostility existed it was directed against the privileged orders. "The

6 Procès-verbal de l'assemblée des communes, etc. A Paris, i, No. 3, p. 6.

7 Champion, E,: La France d' après les cahiers de 1789. Paris, 1897. ch. iii.

8 See the word "Constitution" in the index to the Archives parlementaires, vol. viii, pp. 178-211.

9 Chérest, ii, p. 460.

10 Arch. parl., ii, p. 38.

11 Ibid, iii, p. 154.

12 La Révolution Française. July, 1898, p. 6.

idea that Louis XVI could take the side of the first orders, had, as yet, entered the mind of nobody. For centuries the king had been regarded as the adversary of the privileged classes. The French were persuaded that he entertained for them (the people as a whole) the sentiments of a tender father, and further, that his interest and that of the nation were identical. It was believed that only the enemies of the prince and of the country were capable of proposing any other object than the establishment of a constitution."[13]

Until June 20th, the struggle over the credentials—at bottom a most fundamental question—had been chiefly an affair between the Nobility and the Third Estate. The king had acted as mediator, and had declared himself in favor of neither party. On the 17th, the Third Estate proclaimed itself the National Assembly. Here again no ill will was entertained toward the monarchy. Even now the king could have placed himself at the head of the movement had he declared in favor of the nation instead of in favor of the privileged orders. On the 19th, it was evident that the majority of the clergy would join the Assembly unless prevented from doing so. The government, that had for some days been considering the advisibility of interfering in the affairs of the Estates, decided to proclaim a royal session for the 22nd of June, and, under pretext of preparation, to close the hall of the Estates. This last act was to prevent the Clergy from uniting with the Third Estate. Such was the situation on the morning of the 20th.

At an early hour, the Chevalier de Pange, a regular attendant upon the sessions of the Assembly, presented himself at the door and was refused admittance.[14] He at once betook himself to the lodgings of the President, Bailly, and reported what had befallen him. It was then half past six. Bailly at once dispatched a messenger who reported the hall surrounded by guards and the following notice on the door: "The King

[13] Brette: Jeu de paume. Avant-propos, p. iii.

[14] Bailly's Mémoires, i, 180-194, has been the source of what follows, unless otherwise indicated.

having resolved to hold a royal session in the presence of the States-General the 22nd of June, the preparations to be made in the three halls which serve for the assemblies of the orders, make it necessary that those assemblies be suspended until after the said session. His Majesty will make known by a fresh proclamation the hour at which he will betake himself on Monday to the Assembly of the States-General."[15]

For several days there had been a rumor of a royal session.[16] Bailly no longer doubted it. He was, however, much disturbed at the way in which the ministers had acted. He could not conceive that they had not realized "that an assembly that represented the major part of the nation ought to be extremely offended to learn, in this way, without having received an official notice, that its hall had been closed and its session suspended."

A quarter of an hour later, Bailly received a letter from the master of ceremonies, the Marquis de Dreux-Brézé, informing him of the intention of the king to hold a royal session and of the closing of the hall.[17] This was not satisfactory to the good president. "Was it decent," he asked, "that the members of the National Assembly, even the deputies of the commons—as some wished to consider them—should be instructed of the intentions of the king, of the suspension of their sessions and of the closing of their hall, by public criers and by placards, as the inhabitants of a city are instructed of the closing of a theatre?"

After considering the situation carefully, Bailly decided that the letter from Dreux-Brézé did not relieve him from his responsibility toward the Assembly. Friday evening, he had declared the Assembly adjourned until this morning. Nothing could free him from this engagement. He accordingly replied to Dreux-Brézé that he had received no instructions from the king to suspend the Assembly and it would be his duty to open the session at eight o'clock.[18]

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15 Procès-verbal, Vol. i, No. 3, p. 2.

16 Duquesnoy: Journal, i, pp. 90, 93, 97.

17 Procès-verbal, Vol. i, No. 3, pp. 3, 4.

Procès-verbal, i, No. 3, p. 4.

Bailly then dressed himself and called the secretaries of the Assembly to a conference. It was decided that the closing of the hall should be ignored; that they go there as usual, and make upon the spot a record of the refusal to admit them. On reaching the hall, they were met in a friendly way by the officers of the guard and were allowed to enter for the purpose of gathering up the papers belonging to the Assembly. While in the building, Bailly received a second letter from the master of ceremonies explaining that his first letter had been written at the express command of the king and reiterating its contents.[19]

Bailly decided that in spite of this letter he could take no action, "even upon the orders of the king, because he could not bind the Assembly; it could deliberate upon its own course; he was responsible to the Assembly for his actions as the Assembly was responsible to the Nation."

A record was made of the refusal to allow the deputies to occupy the hall, and Bailly and his associates withdrew to the street. A large number of deputies had already come together. It was the general opinion that the Assembly must meet in order to deliberate upon the situation, and for that purpose a hall must be found. A *jeu de paume* in a neighboring street was suggested and it was decided to go there. On the way the deputies "encouraged one another, promised never to separate and to resist to the death."[20]

The hall where the deputies gathered was for indoor tennis and contained neither benches nor tables. A table was improvised for the secretaries, but during the whole session, which lasted until about half past four,[21] the deputies were obliged to stand. The events within the hall were followed with the keenest interest by the crowd which filled the small galleries of the court and the street outside.

After the majority of the Third Estate had assembled, the

19 Procès-verbal, i, No. 3, p. 5.

20 Rabaut de Saint-Étienne: Précis de la révolution française. Paris, 1813, p. 134.

21 Procès-verbal, i, No. 3; Aulard, op. cit., p. 67.

meeting was called to order by Bailly. The correspondence with the master of ceremonies was read and also the record of what had been done that day previous to the opening of the session.[22]

The question was then open to discussion. What action should the Assembly take? Bailly asserts that the deputies "did not treat openly the question of whether the king had the right to suspend the sessions of the Assembly, but the sentiment was that it would be very dangerous if the king had this right. It was thought that the sessions ought not to be suspended, at least in this way. The principal and fundamental question was not yet ripe; it was sufficient at the moment to have avoided the danger of separation. It was necessary to take measures to prevent its recurrence."

The deputies were still desirous of sparing the king; they still threw the responsibility for violent acts upon the ministers, but they were not divided upon the question of their right to assemble. There were some hot-headed members who talked of going to Paris, a course that would have led to a break with the monarch. Mounier is reported to have said that the fear that Sieyès would induce the Assembly to take this step, led him to propose the famous oath.[23] He himself gives a similar

[22] Procès-verbal, i, No. 3. The official account.

[23] "On a ignoré que, rendus au jeu de paume, toutes les têtes étant parties, l'abbé Sieyès voulut profiter de cet échauffement en proposant de se transférer sur-le-champ à Paris, de s'y constituer et de décréter au nom de la nation. Cette idée prenait faveur: l'abbe Sieyès entouré des siens allait en faire la motion, lorsque Mounier, pour détourner ce coup, proposa le serment de rester unis jusqu'à la constitution faite."—Mallet du Pan: Mémoires, 2 vols., Paris, 1851, i, p. 165, note.

explanation but mentions no names.[24] The resolution, drawn by Barnave and Chapelier—if we may believe Lameth[25]—was passed with but one dissenting voice. It ran as follows : "The National Assembly considering that, called upon to define the Constitution of the Kingdom, accomplish the regeneration of public order, and to maintain the true principles of the Monarchy, nothing may prevent it from continuing its deliberations in whatsoever place it may establish itself, and that, finally, wherever its members are gathered together, there is the National Assembly.

Resolved, That all the members of the Assembly shall take at once a solemn oath never to separate and to assemble whenever the circumstances may demand, until the Constitution of the Kingdom is established and set on a solid foundation; and that the said oath being taken, all the members and each of them in particular shall confirm by their signature this unshakable resolution."[26]

The oath was taken, first by the president and then by all the members of the Assembly but one. After the signing of the oath, an operation which took several hours, the Assembly adjourned until the 22nd.

Such is the historical setting of the famous Oath of the Tennis Court. What light does it throw upon the interpretation of the oath? With the king's real plans, the deputies were not acquainted. They knew that they had been excluded from

[24] Partageant l'indignation générale, craignant de voir s'évanouir cette grande occasion, si long-tems attendue, de réformer les abus, d'améliorer le sort du peuple, entendant autour de moi donner l'alternative ou de prêter le serment, ou de se transporter à l'heure même, dans le capitale * * * je crus ce serment moins dangereux, je le crus excusé par ces circonstances; je me chargeai imprudemment de le faire mettre en délibération. Ce fatal serment étoit un attentat contra les droits du monarque; c' étoit lui déclarer qui il n'avoit pas le pouvoir de dissoudre l'assemblée; c' étoit la rendre indépendante, quel que fût usage qui elle se permettroit de son pouvoir.—Mounier, Recherches sur les causes qui ont empêché les Français de devenir libres, etc. A Genève, 1792, i p. 296, note.

[25] Lameth, Alex.: Histoire de l'Assemblée Constituante. 2 vols. Paris, 1828. i, p. 24.

[26] Procés-verbal, i, No. 3, p. 6.

their hall and that a royal session had been announced for the 22nd. They feared that the king intended to dissolve the Estates and put an end to the work of regenerating France.[27] They disobeyed his orders; they assembled in spite of him; they denied his right to dissolve the Estates. At that moment, the Assembly asserted its supremacy over the royal authority, virtually declaring itself supreme in the state. In the words of Aulard : "The 20th of June, France leagues itself against the royal power; it combats it not only in theory but in fact and puts it in check. It swears that the sovreign power lies in the nation. The 20th of June sees a transmission of power take place from the king to the people."[28]

That this interpretation of the oath, drawn from its historical setting, is the only true one, may be further demonstrated by an appeal to conceptions of the event formed by contemporaries.

Bailly's opinion has already been noted. Mirabeau declared that "this oath, that public interest so clearly forced us to proclaim, to edit and take with some precipitation, is not the less severely and incontestably in accord with fundamental principles, since the National Assembly, being what the Americans and English call a convention, a body of citizens appointed to prepare a constitution, has evidently no need of other title than its instructions to authorize it to work upon the constitution, and may not abandon its great work without betraying the confidence of the people, that it has the honor to represent."[29]

Referring to these words, Dumont states that, informed of the plans of the king, the members of the Assembly believed that he wished to dissolve the Estates, and Mirabeau deceived likewise, pronounced against the dissolution.[30]

Duquesnoy, writing in his journal on the 21st, makes no reference to the constitution. He tells us that the deputies,

27 Mounier, Recherches, p. 295,

28 Études et leçons, p. 68.

29 Courrier de Provence, 1798, i p. 248.

30 Souvenirs sur Mirabeau. Bruxelles. 1832. p. 82.

assembled in the *jeu de paume* "swore never to separate." Threatened dissolution was the all important matter. He exclaims, further on, over "the inconceivable facility with which the oath, never to separate, had been taken. It was evident that to act thus was to usurp authority; it was to take from the king the right to dissolve or to suspend the Estates; to render onesself from that time on master of the executive power."[31]

The words of Rabaud de Saint-Étienne, describing the utterances of the deputies as they marched to the *jeu de paume* have already been cited.

Malouet declared that "it was the general opinion that the king and the first orders desired to annihilate the Estates, have the patriotic deputies arrested, and establish despotism by force."[32]

The same opinion was held outside of the Assembly. Arthur Young, who was then in Paris, wrote as follows in his diary: "The 20th. News! News! Everyone stares at what everyone might have expected. A message from the king to the presidents of the three orders that he would meet them on Monday; and under pretense of preparing the hall for the *seance royale* , the French guards are placed with bayonets to prevent any of the deputies entering the room. The circumstances of doing this ill-judged act of violence have been as ill-advised as the act itself. Mons. Bailly received no other notice of it than by letter from the Marquis de Brézé, and the deputies met at the door of the hall without knowing that it was shut. Thus the seeds of disgust were sown wantonly in the manner of doing a thing which was in itself impalatable and unconstitutional. The resolution taken on the spot was a noble and firm one; it was to assemble instantly at the *Jeu de paume*, and there the whole Assembly took a solemn oath never to be dissolved but by their own consent, and consider themselves and act as the National Assembly, let them be wherever violence or fortune might drive them, and their ex-

31 Journal, i pp. 111-113.

32 Malouet: Mémoires. 2 vols. Paris, 1868. i, p. 322.

pectations were so little favorable that expresses were sent off to Nantes intimating that the National Assembly might forcibly find it necessary to take refuge in some distant city."

"The 21st. It is impossible to have any other employment at so critical a moment than going from house to house demanding news, and remarking the opinions and ideas most current. The present moment is, of all others, perhaps, that which is most pregnant with the future destiny of France. The step the commoners have taken of declaring themselves the National Assembly, independent of the other orders, and of the king himself, precluding a dissolution, is in fact an assumption of all the authority in the kingdom. They have at one stroke converted themselves into the long parliament of Charles I."[33]

Bertrand de Moleville refers to the resolution "prepared by M. Mounier, who was convinced like the rest of his colleagues, that the plan of the ministry was to dissolve the States-General."[34]

Calonne points out that up to the 20th of June the king was in full possession of his rights to convoke, prorogue or dissolve the Estates; that on that day a portion of the Assembly, influenced by fear, took an oath "to violate these same rights."[35]

But why accumulate additional evidence! The testimony of participants, witnesses and contemporaries points to the same conclusion as that drawn directly from the study of events. The Oath of the Tennis Court, far from being "only a slight although important advance on the state of affairs on June 19th," was clearly one of the most momentous resolutions taken by the National Assembly. It was the assumption by the representatives of the people of the sovereignty that public opinion had already transferred from the king to the people.

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33 Young, Arthur: Travels in France. Fourth Edition. London, 1892, pp. 170-172.

34 Moleville: Histoire de la révolution. 14 vols. Paris. 1801-3, i, 195.

35 Calonne: État de la France. A Londres. 1790, p. 336.

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I.—*Influence of the Breton Deputation and the Breton Club in the Revolution (April–October, 1789)*

By CHARLES KUHLMANN

INTRODUCTION

Contemporaries and later historians agree in ascribing to Bretagne an extraordinary rôle in the Revolution, but they have never even attempted to give us an exact and complete account of what this rôle was or how it was performed. Barthélemy Pocquet has in an excellent work, *Les Origines de la Révolution en Bretagne,* led the way to a correct understanding of it. His two volumes are, however, concerned with the local revolution only. But in reading them we seem in the midst of a French Revolution in miniature, so far as its opening period is concerned. There are the same parties with the same attitudes, the same fundamental problems, the same ideas sustained with even greater violence. When, on June 7, 1789, the deputy Le Roulx wrote: "I imagine even that if you will recall the propositions of conciliation which were made to your six deputies at the Court relative to the affairs of Bretagne, you will find between their conduct and that which we should hold an evident analogy,"[1] it was not a mere fancy

[1]Two days before, June 5, he wrote: "Nous avons actuellement assemblée tous les soirs à la chambre provinciale. Divers members des autres provinces s'y rendent, vue la position dans laquelle nous nous trouvons et qui n'ést cependant pas autre que celle dans laquelle la Bretagne s'est trouvée avec la noblesse et le clergé." Kerviler *Recherches et Notices*, art. *Le Roulx.*

on his part, but the expression of a fact, the clear conception of the similarity of conditions of which his colleagues were certainly not unaware—perhaps, even, they were consciously imitating at Versailles a course which their order had already, in form, although not definitely, completed in their province.

That the deputies coming from a province which had just undergone such a revolution would bring with them advanced views generally will be inferred without argument, but to show more exactly what their personal experience had been and what their sentiments were when they entered the States General, I have written chapter I, which, however, does not pretend to be more than the most essential outline. This chapter furnishes, so to speak, the means of understanding the second.

In chapter II, I have attempted to give an account of the motions introduced or sustained by the Breton deputies as a body or by their club, always in close connection with the incidents of the moment and the fundamental motives which were evidently influential. The object here was to trace the influence of this nucleus in the assembly and the manner in which it was exercised. For this purpose, even had the evidence permitted, it was not necessary to give a separate account of the Breton Club and of the organization composed exclusively of the deputies of Bretagne.

Admittedly the evidence is not abundant. Much is left obscure or not conclusively proved, yet, upon the essential points enough light is thrown to show by what system the group of deputies in question was consistently guided; to show that in the most fundamental questions they were the ones who pressed the principles of the Revolution to their ultimate consequences, and that in the crises of the early period it was from them that the cry of rally, of resistance to the forces of the old order of things went out.

But their extraordinary influence was due to their unity, to their hatred of the privileged orders, to their experience in previous conflicts with them. When the Revolution, largely through their efforts, stood triumphant, when the 4th of August decrees had legally swept away the remains of the feudal system and positive legislation began, they no longer possessed their former advantage over their co-deputies. They may still have been more radical or more violent in the expression of their views, but they were little more experienced in the problems which now faced them. The causes which had united them had now weakened or disappeared, their counsels become divided, and with the October revolution their great rôle seems fully ended.

BIBLIOGRAPHY

In *Der Jakobiner-Klub,* written in 1852, J. W. Zinkeisen devotes a chapter to the Breton Club. Speaking of the light in which its enemies later represented this organization he says: "Likewise it certainly remained aloof from the acts of violence which already in the first months of its existence gave to the Revolution the threatening character of a general uprising of the people. But admittedly, too, in later times when only too often passion was forced to direct the blood-dipped pen of history, many charges of this kind were laid to its account, because it was regarded as the cradle and forerunner of Jacobinism, whose fatal influence it was sought to discover everywhere."[1] How true this observation is even the meagre evidence we possess to-day abundantly shows. But this knowledge brings us only slightly nearer to historical truth, for no one with even the most elementary idea of the early period of the Revolution would give serious consideration to the accounts of the "blood-dipped pen" as

[1] I, p. 86.

exemplified in the history of the Revolution by Montjoie. When we have brushed aside such material as nearly or totally worthless in the establishment of fact, there remains the principal task of reconstructing the positive picture. An entirely different class of evidence exists in the records left by former members of the club or by those temporarily in contact with it and, at the time, not hostile to it—records full of errors and colored, not by passion, but by time and subsequent events. It is upon this perplexing material, very general in character and small in volume, that Zinkeisen has based the chapter in which he does indeed succeed in clearing away the myths with which the enemies of the Revolution had enshrouded the club, but in which he is also led into many errors and false conjectures, due to the nature of the evidence out of which, it must be said, he attempted to make too much.[1] Nor does

[1]No sufficient purpose would be served to criticise Zinkeisen's work in detail. Its unsatisfactory character is best felt if, after reading his chapter, we ask ourselves what definite facts, concerning the work of the club, we have learned. Some of his errors may, however, be pointed out briefly. In vol. I, p. 60, he says that the Breton Club was founded at the suggestion of Mirabeau, as if Le Chapelier and the deputies of Bretagne had been strangers to the idea of clubs! I have shown in chap. I, sec. II, that the Breton organization at Versailles was the natural outgrowth of the events in Bretagne, and in chap. II, sec. I, how the so-called Breton Club naturally grew out of the smaller Breton Committee. On p. 85 of the same volume, he argues from facts to motives, and as a result places the whole Breton deputation in a wrong light. "Als . . zur Zeit der Verhandlungen über das Veto, Chapelier und seine Freunde vom Club Breton die Städte der Bretagne aufgehetzt hatten, und diese, namentlich Rennes und zwei andere, Deputationen mit Adressen an die National-Versammlung schickten," etc. Compare this with the evidence from the correspondence of the Breton deputies presented in chap. II, sec. VII. On p. 72, he states that the Breton Club controlled the elections in the assembly. On the other hand, we know that, if they had a special candidate in the election on the 3d of August, he was defeated when Thouret was elected. *Bulletin de Brest* I, No. 34. Nor is it certain that Le Chapelier was the formal candidate of the club. See note 1, p. 77, below. It is, moreover, certain that in the election at the close of August they were defeated, for they considered Langres and several of the secretaries as belonging to the "cabal" which they most bitterly opposed. *Bulletin de Rennes*, II, No. 3. Letter of Hardy de la Largère, *Archives d'Ille et Vilaine*, L. 294. See also pp. 57–60, below, and note 1, p. 58.

much of a definite and positive nature result from his work after it is stripped of its conjectures. From this material, then, little is to be learned. In 1889, Professor F. A. Aulard, in his *La Société des Jacobins,* published all the evidence, as he then believed, which contemporaries had left us concerning the Breton Club, but admitted that it was contradictory and unsatisfactory. He concluded: "What historians posterior to the Revolution have added to these details does not seem to rest upon anything serious."[1]

Aulard, however, who treated the Breton Club only as an introduction to his collection of sources on the Jacobin Club, did not make use of the correspondence of the Breton deputies. But it is precisely in this correspondence that nearly the whole of our reliable evidence is found. Of this correspondence, seven collections, either in the original or in copy, have at present been recovered, namely, those of the deputations of Rennes, Nantes, Brest, Saint-Brieuc, and of the deputies Delaville Le Roulx, Boullé, and Pellerin, representing in all twenty-one deputies. To this must be added the correspondence of the Clergy of Rennes, included in the bulletin published at Rennes. Unfortunately for our purpose, the writers as a rule confine themselves to the general affairs of the assembly. It is by way of exception that the Breton Committee and the Breton Club are mentioned, and even then we are often not informed what action they took. In this way, we are frequently forced to recur to the individual opinions as expressed in the debates and correspondence of the different deputies, in order to learn what the position of the deputation and those allied with it was. For this purpose, the original letters of Legendre and Moyot, the copies of those of Le Roulx, and the reprints of the originals of Cham-

[1] I, p. XVI.

peaux-Palasne and Poulain de Corbion, and of Boullé are especially valuable because these writers express their opinions, impressions, hopes, and fears without the reserve characterizing the printed correspondence of Rennes and Brest and the letters of Pellerin. That such a method must be used with caution is evident. In favor of it is to be urged the fact that the Breton deputies were characterized by their contemporaries as exceptional for their unity of views and action. When, therefore, we find the same sentiments persistently recurring in the correspondence of a number of the deputies, without meeting with contradictions, we have a very strong presumption that this is the reflection of a general attitude rather than the expression of mere personal views. By means of this evidence and the motions made or sustained in the assembly, we are enabled to reconstruct the consistent course followed by the deputation and the club from the opening of the States General to the discussion over the veto.

It is important to know that this correspondence, if not in every case technically, was in effect official in character. A number of municipalities and *sénéchaussées* in April and May, 1789, established "bureaus of correspondence" by which to keep themselves in touch with the work of their deputies and that of the States General.[1] An example of the manner in which this correspondence was conducted is found in the regulations adopted at Brest and preserved in the city library of that place under the title: *Résultat des conventions pour l'établissement de la correspondance de Brest avec MM. les députés de la sénéchaussée aux Etats Généraux, et de la ville avec les*

[1] Besides Brest, these were Rennes, Nantes, Saint-Brieuc, Guérande, and Lorient, so far as I have been able to discover from definite records, but that there was correspondence besides this is shown by the collection of letters of Boullé and isolated letters of the deputies of Quimper and of Corroller du Moustoir.

campagnes en conformité du vœu verbalement exprimé, à l'issue de l'assemblée générale de ladite sénéchaussée par les députés-électeurs qui la composaient, le 8 avril 1789. This is dated May 17, 1789, and signed by the "Députés-Electeurs" and "Officiers-Municipaux." The regulations are long and formal, intended to guard closely against deception. Following are the most important articles: Art. 2. "The primary object of this correspondence shall be the most prompt and exact communication from Brest, of all the news directly delivered by the deputies to the States General; this communication to be made by means of copies of the different documents collated and guaranteed by the commissioners of Brest." Art. 3. "The bureau of Brest shall be charged directly with the correspondence, as well with that of the deputies to the States General as with that of the four correspondents of the country districts before designated." Art. 4. "It shall follow the prescribed plan and keep an exact register of its daily operations." Art. 5. "It shall preserve, with order and exactness, the letters and other documents which shall be addressed to it, both those of the deputies to the States General, and those of the country correspondents and private individuals." Art. 6. "This bureau shall be established at the *Hôtel de Ville* and shall be composed of seven commissioners who shall replace each other as follows." Then follow the regulations in detail. The bureau was to form a deliberative body, making its decisions by majority vote, this majority then signing the correspondence. The packages addressed to the bureau were removed from the post-office by a secretary and opened only in the presence of the commissioners and a municipal officer.[1]

[1] *Recueil* No. 2, 334. Compare with the arrangement made by the *sénéchaussées* of Nantes and Guérande. *Archives Nationales*, C21, dos. 111. Also art. III of the additional articles of the *sénéchaussée* of Rennes. *Archives Nationales*, BA26, liasse 170bis.

As a result of this arrangement, we have to-day the original letters of Legendre and Moyot (No. 1 below), the inexact copies of them made by the above named bureau, and a printed bulletin (No. 2 below) based upon this correspondence, and also upon other sources of information, as is shown by the contents of the bulletins. But of the correspondence of the bureau with the country districts and of any letters of private individuals which may have been received by the bureau, no trace has been found. At Rennes a similar bureau was established, but, unfortunately, of this most important deputation we have neither the original letters nor the copies made of them by the bureau. We are confined to a printed bulletin "avowed" by the bureau, in which, if the example of the bureau at Brest was followed, the most intimate opinions of the deputies were suppressed.

In the National Library at Paris are preserved the above-named bulletins of Rennes and Brest, besides many pamphlets, resolutions, *procès-verbaux* of meetings, including some of the electoral assemblies and a number of the *cahiers* of 1789. In the *Procès-verbaux* of the electoral assemblies and the *cahiers* now in the National Archives, aside from the formal mandates, considerable information is found relative to the rôle of the deputies in the province and the spirit which ruled in the electoral assemblies of which they were in nearly every case members.

Following is a classified list of the principal documents and works consulted.

I. Strictly contemporaneous evidence.

1. *Correspondance de Legendre et Moyot, députés à l'assemblée des Etats Généraux et à l'Assemblée nationale.* Composed of the original letters of Legendre and Moyot in the archives of Brest, containing 395 letters beginning April 28, 1789, and ending December 30, 1791.

Extracts have been published by MM. Delourmel and Corre in *La Révolution française,* Dec.–Jan., 1900–1901. In the body of their letters, the deputies usually confine themselves to the plain narrative of the debates and proceedings of the assembly to which is sometimes added news from Paris or Versailles. It is in their postscripts, evidently not intended for publication, that the affairs concerning the Breton deputies especially are discussed.

2. *Etats Généraux. Bulletin de la correspondance de la députation du tiers état de la sénéchaussée de Brest.* . . . 3 vols. Brest Imprimérie de R. Mallasis, 1789–1790. *Bib. Nat.* Lc2/129.

These bulletins commenced May 12, 1789, according to the copy in the National Library, and ended January 1, 1791. On the relation existing between these bulletins and the original letters (No. 1 above) Delourmel and Corre write: "The letters are in effect altered, both in the bulletin and upon the copying register where they were transcribed in the form in which they were to be printed. It happens even that certain events are described under the signature of Legendre, with many details borrowed from the papers of Versailles and Paris."[1]

3. *Etats Généraux. Correspondance de Bretagne. Bulletin des correspondance réunies du clergé et de la sénéchaussée de Rennes.* . . . 5 vols. Rennes, Vater fils, 1789–1790. *Bib. Nat.* Lc2/130.

This was a publication similar to the bulletin of Brest, issued three times a week. In the number of May 13, 1789, occurs the following announcement: "Le Bulletin des Etats Généraux, avoué par le bureau de la Correspondance établie à Rennes et signé de M. l'Abbé Colet, membre du dit Bureau" etc., which would seem to indicate that the letters published were reproduced exactly from the

[1] *La Révolution française,* December, 1900.

copies furnished by the bureau. The issues for the month of September, 1789, are wanting in the copy in the National Library. These may be found in the city library of Rennes.

4. *Feuille hebdomadaire pour la Bretagne. Affiche de Rennes.* 2 vols. 1784–1792. City library of Rennes, 49E, 15. This is a very incomplete copy of a newspaper which, among other things, also published extracts from the correspondence of the deputies of Rennes.

5. *Correspondance de MM. les députés des communes d'Anjou, avec leurs commettans, relativement aux Etats Généraux à Versailles en* 1789–1790. 10 vols. *Bib. Nat.* Le2/145. Contains valuable evidence on the earlier sessions of the Third Estate in the detailed accounts given by the deputies in their regular and systematic letters.

6. *Correspondance des députés des Côtes-du-Nord aux Etats Généraux et à l'Assemblée nationale constituante. Publiée par M. D. Tempier. Première partie Avril–Octobre 1789.* Published in the *Société d'emulation des Côtes-du-Nord.* vol. 26. The original letters of Champeaux-Palasne and Poulain de Corbion.

7. *Correspondance inédite de J. M. Pellerin, député du tiers état de la sénéchaussée de Guérande aux Etats Généraux, (5 mai 1789–29 mai 1790) recueillie et annotée par Gustave Bord.* Paris, 1883. This is the official correspondence of Pellerin addressed to the bureau and municipality of Croisic.[1]

8. Correspondence of Jean-Pierre Boullé, published in the *Revue de la Révolution publiée sous la direction de*

[1] Pellerin was, also, for some time the writer of the letters published in the *Bulletin des Etats-Généraux, par les membres du bureau de correspondance de Nantes*, now in the city library of Nantes, but which I have not been able to consult. On June 12, 1789, he wrote: "C'est occuper les intervalles de ces séances et le matin qu'il me faut rediger . . . votre correspondance et celle de Nantes, dont je me suis pareillement chargé."

Gustave Bord. vols. 11–13. Paris, Bertaux-Bray, Editeur. Boullé was deputy from Pontivy. The original letters are now in the archives of the Department of Morbihan.

9. *Correspondance de M. de la Ville Le Roulx du 3 avril 1789 au 21 août suivant,* composed of the copies of the letters of Le Roulx made by the bureau of correspondence to which they were addressed, and now in the municipal archives of Lorient. This correspondence was also printed by the bureau, but no printed copy is now known to exist.[1]

10. *Lettre adressée à messieurs les citoyens de la Ville de Rennes, par M. le Chapelier, député de la sénéchaussée de Rennes. . . . Versailles, ce 12 Septembre 1789.* 12 pages. Rennes chez N. Audran. *Bib. Nat.* Lb39/7816.

11. *Relation des événements du 6 mai au 15 juillet 1789,* composed of the letters of an anonymous correspondent now in the *Archives des affaires étrangères,* and published by Armand Brette in *La Révolution française.* vols. 23–24.

12. *Journal D'Adrien Duquesnoy, député du tiers état de Bar-le-Duc, sur l'Assemblée constituante. 3 mai 1789–3 avril 1790. Publié par la société d'histoire contemporaine, par Robert de Crèvecœur.* 2 vols. Paris, 1894.[2]

13. *Hérault de la nation, sous les auspices de la patrie (par Mangourrit).* Jan. 1 to June 30, 1789. *Bib. Nat.* Lc2/102.

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[1] May 11, 1789, the bureau at Lorient wrote to Rennes: "Le bulletin que nous tirons des lettres de nos députés et que nous faisons imprimés." That this was continued is shown by a letter of Le Roulx of December 30, 1789. "Vous avez pris le parti de faire imprimer mes lettres." See the register of this correspondence at Lorient, BB12–13.

[2] See the criticism of this journal by Armand Brette in the *Revue Critique,* May 11, 1896, and the reply of Guilhiermoz in the same review, June 22, 1896. See also the *American Historical Review,* October, 1902, in which Fling has shown from a study of the bulletins that Duquesnoy must have been the author.

14. *Journal d'état et du citoyen, par Mademoiselle de Keralio, de l'académie d'Arras et de la société patriotique bretonne,* published at Paris from Aug. 13 to Nov. 30, 1789, according to the numbers preserved in the National Library. *Bib. Nat.* Lc2/214.

15. *Le Point du jour, ou résultat de ce qui s'est passé la veille à l'Assemblée nationale.* 26 vols. Paris, 1789–1791.

16. *Récit des séances des députés des communes depuis le 5 mai 1789 jusqu'au 12 juin suivant.* Paris, 1895.

17. *Procès-verbal de l'assemblée des communes et de l'Assemblée nationale.* 75 vols. Paris, 1789–1791.

18. *Courrier de Provence.* 18 vols. Paris, 1789–1791.

II. Mémoires and other works of contemporaries.

1. Beaulieu, C. F. *Essais historiques sur les causes et effets de la Révolution de France.* 6 vols. Paris, 1801–1803.

2. Montjoye. *Histoire de la Révolution de France et de l'Assemblée nationale.* Paris, 1792.

3. Moleville, Bertrand de. *Histoire de la Révolution de France.* 14 vols. Paris, 1801.

4. Grégoire. *Mémoires de. Par M. H. Coruet.* 2 vols. Paris, 1867.

5. Lameth, Alexandre. *Histoire de l'Assemblée constituante.* 2 vols. Paris, 1828.

6. *Mémoires sur la Révolution française; extraits de la correspondance de Condorçet et de celle de ces amis. Par Frédéric-Gacton de la Rochfoucauld-Liancourt.* 2 vols. Paris, 1824.

7. Dubois-Crancé. *Analyse de la Révolution française des Etats Généraux jusqu'au 6 brumaire an IV de la république.* Paris, 1885.

8. Ferrières, Marquis de. *Mémoires sur les assem-*

blées parlementaires de la Révolution. 2 vols. Paris, 1821.

9. Droz, Joseph. *Histoire du règne de Lôuis XVI.* 2 vols. Paris, 1839.

10. Duchatellier, A. *Histoire de la Révolution dans les départements de l'ancienne Bretagne.* . . . 6 vols. Paris et Nantes, 1836.[1]

11. *Vie privé et politique du roi Isaac Chapelier.* Rennes, 1799. *Bib. Nat.* Lb39/3100. A pamphlet of 112 pages violently attacking Le Chapelier, Mirabeau, and the Breton deputies.

III. The works of later historians.

1. Aulard, F. A. *Etudes et leçons sur la Révolution française. Première série.* Paris, 1893.

2. Aulard, F. A. *La Société des Jacobins. Recueil de documents pour l'histoire du Club des Jacobins de Paris.* 6 vols. Paris, 1889.

3. Kerviler, René. *Recherches et notices sur les députés de la Bretagne aux Etats Généraux et à l'Assemblée nationale constituante de 1789.* 2 vols. Rennes, 1889.[2] By the same writer, *Armorique et Bretagne.* . . . 3 vols. Paris, 1893.

[1] Duchatellier is given here because he was in position to obtain information from men who lived through and participated in the events he narrates.

[2] Kerviler's work is valuable for our purpose principally for the large amount of detail it contains concerning the individual deputies of Bretagne, and for the numerous extracts from their correspondence. The author has made but little attempt to interpret the work of the deputation as a whole. He writes from a conservative point of view with a tendency to permit his feelings to interfere with his appreciation of the strength of historical motives, so important in his subject. This seems to have prevented him from understanding the most important member of the deputation, namely, Le Chapelier. It must be admitted that Le Chapelier sometimes expressed himself in very vigorous language, but it seems to have escaped Kerviler altogether that he was repulsed by the violence of the July revolution—that if he did indeed approve of it, it was only because he saw in it

4. Chérest, Aimé. *La chute de l'ancien régime.* 3 vols. Paris, 1887–1889.

5. Le Téo. *Le Club Breton et les origines du Club des Jacobins.* In *La Révolution française,* vol. 36.

6. Zinkeisen, J. W. *Der Jakobiner-Klub. Ein Beitrag zur Geschichte der Parteien.* 2 vols. Berlin, 1852.

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the only possible way to liberty—and that from that time on he began to withdraw more and more from the increasing violence of the party, which was still unsatisfied with the work already done. See below, chap. II, pp. 77, 83–84, and Kerviler, art. *Le Chapelier*, and his concluding generalizations.

CHAPTER I

The Breton Deputies and the Revolution in Bretagne

(1788–1789)

I

THE DEPUTIES AS LEADERS IN THIS REVOLUTION

In Bretagne, several causes existed to hasten the Revolution and to make it at first more violent than elsewhere in France. The abuses of the Ancient Régime were greater here than in any other province, while at the same time the people were the more dissatisfied because they had for years agitated for reforms. Long before the opening of the Revolution, the Third Estate had fought in the provincial assembly for increased rights and the removal of some of the most oppressive burdens, only to be met by a resistance that it was unable to overcome.[1]

In the parliamentary agitation of 1787 to 1788, the long struggle was momentarily suspended in order to present a firmer resistance to what was believed an encroachment of the general government upon the rights of Bretagne reserved in the "Contract of Union," fixing the conditions under which the province was united to the crown of

[1] Duchatellier, *Histoire de la Révolution dans les départements de l'ancienne Bretagne*, I, 3–4. "Il y eut en Bretagne, longtemps avant la collision de 89 entre la Noblesse et le tiers, une lutte vive, animée, qui durait près d'un siècle, quant, en janvier 1789, la Noblesse bretonne se retrancha aux Cordeliers de Rennes, poussant ses laquais au combat . . . Mais combien de fois déjà, les mêmes idées et les mêmes classes d'hommes ne s'étaient-elles pas mesurées dans la salle des Etats et sur la place publique?"

France.[1] But the Third Estate was not deceived as to the real meaning of the conflict between the government and the parliament sustained by the local nobility. When Louis XVI. was compelled to abandon his reform program and announce the assembly of the States General, it attacked its former allies with surprising vigor and unity in agitating for its own rights as an order.

Foremost in this movement of the Third Estate were those who were later to be elected deputies to the States General. The signal of revolution was given by Cottin as the instigator of resolutions adopted by Nantes on November 6.[2] "The Third Estate demands that the deputies of this city to the coming estates of the province be expressly charged to ask that, from the present session, the deputies of the Third Estate shall always be equal in number to those of the Clergy and Nobility combined, and that to this effect the Nobility shall no longer participate in the estates except by its deputies, the number of which is to be determined by the three orders. . . . The Third Estate demands that its deputies shall not enter the assembly until the two first orders have deliberated over and consented to its just demands, and (which is not to be anticipated) that in case of refusal they shall give immediate notice, in order that the Third Estate may ask aid of the sovereign, sole chief of all justice."

These resolutions were presented to the king by twelve envoys, among whom were the future deputies Cottin, Jarry, Duplessis, Chaillon, and Blin. Many municipalities followed the example of Nantes in adopting the same or similar resolutions which they presented to the govern-

[1] Chérest, *La chute de l'ancien régime*, I and II, *passim*, and Pocquet, *Les origines de la Révolution en Bretagne*, I.

[2] These resolutions, *Placets adressés au Roi et à la Reine*, are found in the National Library at Paris, Lb39/66. Kerviler, *Recherches et notices*, art. *Cottin*, says they were the work of Cottin.

ment either directly or through the representatives of their order already at Paris.[1] The importance of this movement was at once realized by the privileged orders, but their attempt to influence the ministers to cause the king to refuse to receive the envoys, and thus discredit the idea to which their reception might give rise, failed.[2] At Paris the envoys formed themselves into a single body for the discussion, not only of the immediate business for which the different members had been sent, but of the whole political movement of the time. At first, they sent daily bulletins to Nantes in the name of the "Twelve deputies of the Third Estate at Court,"[3] but on December 18 they either assumed, or were given the title, "The deputies of the Third Estate of the province of Bretagne, at the Court."[4] On November 18 they wrote: "Deputies from the different cities of our province come to us here, and we receive daily from other cities the adhesions which they hasten to address to us."[5] On December 19, they announced: "The deputies of Lorraine and of Franche-Comté join us to present to the ministers a mémoire which will destroy the false insinuations contained in the one drawn up in the name of several provinces, insinuations

[1] Pocquet, II, chap. 2. A large mass of these resolutions, together with the pamphlets of the same period and of a period a little later, exist in the National Library and in the municipal and departmental archives of Bretagne.

[2] Charles Robert, *Urbain de Hercé*, etc. Paris. Victor Retaux. Hercé was at Versailles at this time and charged by the Nobility to confer with the ministers to prevent the reception of the envoys of Nantes. See the correspondence of the first half of November.

[3] Bulletin No. 3. Four of these bulletins, Nos. 3, 8, 13, and 14, are preserved in the departmental archives at Saint-Brieuc in printed form, all but No. 3 dated from Paris. No. 3 is dated November 14, No. 14, December 19. They were printed and distributed by the municipality of Nantes to justify the course of its deputies at the court, as is explained by a letter of expedition accompanying them, dated from Nantes, December 25, 1788.

[4] No. 13.

[5] No. 8.

which the public has promptly judged as they ought to be. It regards with pleasure the princes who have not signed this mémoire."[1] This mission proved a veritable political school for those who were charged with it, for while they came into contact with the men leading in the agitation in other parts of France, they were at the same time observing the work of the Assembly of Notables, the position of the parliament, and learning of the hearty manner in which Paris approved of the radical action Bretagne was taking at the moment.[2] Of this they were themselves quite conscious, for just before the opening of the estates of the province they sent, in the name of "The deputies of the Third Estate of Bretagne at the Court," a list of the demands they thought the order should adopt, as a whole, justifying this presumptuous step by saying, "You ought to do us the justice to think that this proposition is inspired by the special knowledge we should possess of the means to be employed, and which are indicated to us by enlightened and well-intentioned men."[3]

Just how long this sort of revolutionary committee remained at Paris, or the exact number of those who at one time or another formed part of it, it is impossible to determine. After the estates of the province opened, the Third Estate as a whole sent deputies to represent its interests at the court. Of the future deputies to the States General, besides the five from Nantes already mentioned, Kervélégan, Le Déan, Le Roulx, Le Chapelier, La Chapelle, Coupard, Boullé, and Champeaux-Palasne were thus sent upon one errand or another.[4] It is more than

[1] No. 14.

[2] Ibid.

[3] See the pamphlet, *Charges à donner à MM. les députés du Tiers à la prochaine assemblée des états. Bib. Nat.* Lk2/528.

[4] Kerviler, *Recherches et notices.* See the names in question.

probable, too, that Le Chapelier, Varin, Lanjuinais, and Glezen, who were sent in February by the avocats of Rennes, joined the same body.[1] Of the importance of their work, Kerviler goes so far as to say that the impulse to the revolutionary movement in Bretagne came from this committee at Paris.[2]

Owing to the position of their city as capital of the province, the future deputies of Rennes became more intimately concerned with the revolutionary movement even than those of Nantes. Even before the provincial estates opened at the close of December, the privileged orders had resolved to refuse the demands of the Third Estate.[3] Rennes, where an unusually large number of partisans of both parties had gathered,[4] increased daily in excitement, until on the 26th and 27th of January it became the scene of a violent conflict in arms, in which a number on both sides were killed or wounded. This incident and the incriminations following it influenced profoundly the entire future course of the Third Estate of Bretagne. It fixed in the minds of its members the conviction that the Nobility had contemplated the massacre of its leaders, and created in it a hatred of the whole aristocracy, which its deputies carried with them to the States General, becoming with some of their colleagues in the assembly their distinctive mark.[5] Even before this, a vague feeling had existed that the issue might be reduced to a question of arms. A league which had long existed between the young men of Rennes, Nantes, Saint-Malo, and Angers had been extended to many other cities of Bretagne, all

[1] See p. 21.
[2] Art. *Defermon des Chapelières.*
[3] Pocquet, II, 90–92, 144–145.
[4] Ibid., II, chap. IV.
[5] See pp. 51, 52, below.

united by a "compact of union" and to a large extent armed.[1] When, on the 26th of January, the young men at Rennes who were accustomed to gather at the *Café d'Union* were attacked by the valets, they hurriedly sent messengers to the "jeunes gens" of several other cities asking for aid.[2] Nantes and Saint-Malo responded so promptly that their contingents arrived near Rennes before new messengers could inform them that the rapid settlement of the difficulty rendered their services no longer necessary.[3]

This armed demonstration made a deep impression upon the two privileged orders. There could be no doubt of the close alliance of the leaders of the Third Estate and this armed body throughout the province. At the law school at Rennes where the avocats were the most violent supporters of the Third Estate, a club had been organized

[1] *Relations des événements qui se sont passés en Bretagne, rédigées par les députés du Clergé et de la Noblesse. Bib. Nat.* Lb39/6900. "Une ligue qui existait long-temps avant le 27 janvier entre les jeunes gens de Rennes, de Saint-Malo, de Nantes et d'Angers, s'est étendue dans toutes les villes de la province; les associés portent un ruban où l'on voit un emblême du Tiers, et pour dèvise, *vaincre ou mourir;* ils ont conservé les fusils enlevés du magazin du Roi; ils ont osé traiter avec le commandant de la province; ils ont des drapeaux où sont peintes les armes de la Bretagne et celle de M. de Thiard; ils vont par troupes et armés dans les différents villes, ils y font des enrôlements, la vie de quelques gentilshommes est menacée." These bodies of young men were the forerunners of the National Guards, but they seemed to have been without any legal control or status whatsoever. Their action, when not entirely spontaneous, was taken upon the advice of private individuals, and thus served as a powerful instrument in the hands of the leaders of the Third Estate. In the departmental archives at Saint-Brieuc (C. 165) exist two different plans or constitutions for the union of the different units, the title of one of which, "Pacte social entre les jeunes citoyens de Bretagne et provinces voisines, et autorisés par leurs pères," is instructive. Concerning their spirit and manner of action, see *Arrêté de l'assemblée générale des jeunes citoyens et étudiants en droits, de la ville de Rennes,* etc. *2 mars, 1789. Bib. Nat.* Lb39/7008. Another deliberation by the same body, Feb. 27. *Bib. Nat.* Lb39/7060. Also *Protestation et arrêté des jeunes gens de Nantes, du 28 janvier 1789. Bib. Nat.* Lb39/6932. Pocquet, II, chaps. VI and VII.

[2] Pocquet, II, chap. VII.

[3] Ibid.

where many of the students and young men met to discuss the political questions of the day.[1] At the *Café d'Union* a similar club existed.[2] This whole group of men they now attacked in a *mémoire* drawn up in the name of the Clergy and Nobility. In this it was charged that a body of men existed who, in order to further their sinister designs, had persuaded the "jeunes gens" that the Nobility had armed its valets for the attack on the 26th of January. It was claimed, too, that this organization of young men, manipulated by the leaders of the agitation, could have no other design than to attack the Nobility.

This attack of the Clergy and Nobility, almost official in form, while denouncing the whole movement of the Third Estate, was especially dangerous for the avocats at Rennes in that it gave their enemy, the Parliament, an occasion for beginning a systematic prosecution, not only of themselves, but of the whole body of young men who had now become recognized as the final support of the Third Estate. The leaders and their armed supporters were thus to be struck down together. The avocats at once saw the danger and drew up a reply in which they made a vigorous defense of the "jeunes gens" and declared the Parliament of Rennes a body unfit to sit in judgment over the affairs of the 26th and 27th of January, because it was at the same time party and judge, it being notorious that its interests were entirely with the Nobility.[3] What part the future deputies of Rennes had in this episode may be judged from the fact that Glezen, Lanjuinais, Le Chapelier, and Varin were appointed to present this *mémoire* to the king.[4]

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[1] Pocquet, II, 232 ff.

[2] Note 1, p. 20, above.

[3] Pocquet, II, pp. 296 ff. Also *Discours adressé à Monseigneur le Garde-des-Sceaux, le 6 février 1789*, etc. *Bib. Nat.* Lb39/6969.

[4] Ibid.

Lanjuinais, avocat and professor of law at the law school of Rennes, had long been known for his liberal views. Ten years before the opening of the Revolution he had been violently attacked for an opinion he had published in favor of the Third Estate relative to the *droit de colombier*. As a result of this, he had been practically forced to abandon his profession owing to the dislike conceived against him by the members of the Parliament of Rennes.[1] When in 1788 Le Guer published the circular letter in which the Nobility announced rudely its opposition to reforms, Lanjuinais promptly replied by a crushing analysis of the letter, article by article. After exposing the fallacy of Le Guer's argument in maintaining that the interests of each order were sufficiently guarded by the veto of each, he struck at the heart of the controversy in frankly announcing the necessity of a fundamental or constitutional change. Le Guer had said "That all innovation, in opening the door to the arbitrary, will tend only to bring about trouble and anarchy."[2] With the greatest indignation and irony Lanjuinais replied: "Negroes! you have been reduced almost to the condition of brutes; no innovation. Russian peasants! you are slaves; no innovation. Children of the kings of Asia! according to custom the strongest and wiliest among you strangles his brethren; no innovation. Jagas of Africa! among you exist the slaughter houses of human flesh; no innovation. People of Bretagne! you suffer greatly, but the nobles are people very well off; no innovation. You have the veto to exercise in your favor, in an assembly of seven to eight hundred nobles, by forty and some deputies from the cities, of which several are nobles or aspiring to be."[3]

[1] *Œuvres de J. D. Lanjuinais*, Paris, 1832. I, 6.
[2] Ibid., I, 116.
[3] Ibid., I, 116.

This pamphlet was soon followed by another, "Le préservatif contre l'avis à mes compatriots," in which, after summing up the grievances of the Third Estate, he defended the king and Necker against the attacks of the Nobility of Bretagne, maintaining that their intention was to liberate France by giving it a constitution. "Gratitude and enthusiasm for the sovereign are the only sentiments which should manifest themselves and be forever fixed in the hearts of all."[1]

Glezen also entered the conflict through the press in a "Lettre d'un homme à 864 nobles bretons," in which he asked why the people of Bretagne were so anxious to change their constitution, if it were the base of their happiness as the Nobility maintained. "How dare you to affirm in the eighteenth century that a constitution in which the dignity of man is debased and his rights disowned so far as to subject millions of men to the caprices and cupidity of a privileged class, that a constitution in which a small number of individuals, establishing themselves as despots, have arrogated to themselves the odious privilege of exemption from the public contributions and to force the people to support the entire burden, that precious portion of the nation which, they say ironically, has been always dear to them; that a constitution, finally, which is essentially inconsistent with the public welfare, since in order to achieve it (the public welfare) reforms would be necessary, but which would never be accomplished while those who pretend to be masters, the guardians of that constitution, crush by their preponderance the well-intentioned citizens; . . . how do you dare to say that such a constitution procures the happiness of a great province and that every Breton ought to cling to it as firmly as to his honor? What then are your ideas of honor that they

[1] Ibid., 134, 135.

should be placed upon the same level with those of pecuniary exemptions? For, finally, you did indeed wish to disguise your motive; it is to these shameful exemptions that you are so tenderly attached; it is in them that you find your happiness."[1]

Glezen and Defermon, likewise closely identified with the agitation in the province,[2] and secretary of the provincial estates,[3] were members of the intermediary commission and as such charged with the important correspondence of the deputies of the Third Estate at the court.[4] With Le Chapelier, Glezen had been on the committee of four charged with drawing up the *cahiers* of the Third Estate of Rennes, adopted on November 24.[5] Glezen was himself elected deputy to the Estates after their suspension in January.[6] In the extraordinary assembly of deputies at Rennes, which drew up, in effect, the final *cahiers* of the order, the future deputies, Le Chapelier, Defermon, Cottin, Chaillon, Duplessis, Jary, Baco, Bougerel, Coupard, Le Déan, and Boullé were present.[7]

In other cities of Bretagne, the relation of the future deputies to the Nobility and the reform movement was very similar. At Vitré, Hardy de le Largère had difficulties with the parliament and was very bitter against the Nobility.[8] Kervélégan and Le Déan at Quimper were the first to oppose the parliament in the fall of 1788.[9]

[1] Kerviler, *Recherches et notices*, art. *Glezen.*

[2] Ibid. Arts. *Glezen* and *Chapelières.*

[3] Ibid.

[4] Ibid.

[5] *Extraits des registres du greffe de l'hôtel de ville de Rennes. Bib. Nat.* Lb39/697.

[6] Kerviler, art. *Glezen.*

[7] *Résultats des délibérations tenues en l'hôtel-de-ville de Rennes, les 22, 24, 25, 26,et 27 décembre 1788*, etc. *Bib. Nat.* Lb39/1887 A.

[8] Manuscript letter of Largère, *Archives d'Ille et Vilaine*, L. 294.

[9] Chérest, *La chute de l'ancien régime*, II, 333, 334. Also *Lettre de M. De Goazre de Kervélégan à M. Ballais*, etc. *Bib. Nat.* Lb39/6628, a printed pamphlet of 47 pages.

Kerangal of the *sénéchaussée* of Lesneven, while very active himself, had made his house the rendezvous of the local reform committee and the militia organized in support of the Third Estate.[1] Nearly all the deputies were men of considerable experience in public affairs. Seven at least had been mayors of cities, six had held the office of senechal, five that of procureur. Nine had been deputies to the provincial assembly (principally to the last one) and eight had been appointed on the intermediary commission, February 14, 1789.[2] Fifteen were avocats who as a body had been active in political agitations since the middle of the century, or even earlier.[3] In the elections in April, they were again very prominent. A majority were delegates to the electoral assemblies in which ten of them were chosen on the committees on *cahiers*, namely, Boullé, Bourgerel, Chaillon, Corbion, Duplessis, Legendre, Lanjuinais, Morhery, Pellerin, and Thégadout.[4] Kerviler states that the important *cahiers* of Rennes were almost entirely the work of Lanjuinais.[5]

II

EFFECT OF THE PROVINCIAL REVOLUTION UPON THE ATTITUDE AND FUTURE ACTION OF THE DEPUTIES

The effect upon the Breton deputies of the events above narrated was profound. Contemporaries usually ascribe their unity in the States General to the effect of their club.

[1] Kerviler, art. *Kerangal.*

[2] These facts were in large part gathered from the work of Kerviler. The rest were found in the resolutions, *procès-verbaux*, and *cahiers* of the period, which it is not possible to cite in detail.

[3] See Rocquain, *L'esprit révolutionnaire avant le Révolution. Passim.*

[4] The *procès-verbaux* of the electoral assemblies preserved in the *Archives Nationales.*

[5] Kerviler, art. *Lanjuinais.*

The real relation of historical forces would be more correctly represented by saying that their club was an evidence and a result of their unity. Both their committee and their club were undoubted factors in their power in the assembly, but the fundamental causes of their unity lie deeper. They must be sought for in Bretagne rather than at Versailles. What reasons can be assigned to explain why their mere artificial organization should have been any more lasting or effective than similar organizations formed by the deputies from other provinces?[1] They were the representatives of a province whose century-long struggles in defense of its independent life had given its people, far from possessing the French character even to-day, a strong sense of a separate nationality,[2] a feeling just reawakened by the parliamentary opposition of 1787–1788. It is not uncommon to find in the local literature of 1788–1789, the people of Bretagne called the "Breton Nation."[3] Many of the *cahiers* demanded the preservation of the special régime until that time in force, and it is a significant fact that one of the first things undertaken by the deputies upon their arrival at Ver-

[1] As, for instance, the deputation of Languedoc. Léon Pignaud, *Un agent secret sous la Révolution et l'Empire, Le Comte d'Antraigues* p. 70. Zinkeisen, I, 59: "Fast jede Provinz fand sich in abgesonderten Vereinen zusammen, welche jedoch meistens nur gesellschaftliche Berührungspunkte ohne bestimmte politsche Zwecke sein sollten."

[2] Pocquet, *Les origines de la Révolution en Bretagne, I, Intro.* pp. XIX–XX. "Malgré cela (the centralizing work of the Revolution) qu'on le pardonne au patriotisme d'un Breton,—on peut dire que la Bretagne existe encore. Nul pays n'a gardé plus profondement empreintes les traces de son ancienne unité, plus vivants les souvenirs de cette vie provinciale qui fit tant de fois battre le coeur de ses enfants. Mieux encore peut-être que la Provence, elle a conservé dans le démembrement des choses sa personalité; car elle aussi a eut sa langue, sa poesie, ses mœurs, sa nationalité."

[3] See the *procès-verbal* of the election at Quimper, April 18. *Archives Nationales*, B A26, liasse 169bis. *Extrait du procès-verbal des séances de la sénéchaussée de Quimper des 16, 17, . . . 23 avril, 1789.* The address of the inhabitants of the country. *Bib. Nat.* Le23/161.

sailles was to attempt to form a common *cahier*, as if the province were to be represented as a whole and not by *sénéchaussées*. They arrived at the States General with an experience and from a political atmosphere entirely different from that of their colleagues. They had been the leaders in a struggle which had thoroughly unified and crystallized opinion. In Bretagne, the time for hesitation on the part of the Third Estate had long passed. Revolution had been boldly declared and all hopes of compromise with the privileged orders abandoned. As Dubois-Crancé writes: "It is, so to speak, from the center (*foyer*) of its insurrection that the people (those of Bretagne) had drawn the elements which were to cause their rights to prevail and to manifest their will in the great assembly of the representatives of the nation."[1] The deputies of Bretagne wished to repeat at Versailles the tactics which had in their province led to success so far as events had as yet shown—they were prepared to *summon* the privileged orders before arguing with them. It was this which gave decision and definiteness to their speeches and propositions in the States General, and it was an element of their Breton character, called *franchise* by themselves, which caused them to state without circumlocution what their opinions were. Finally, their position was like that of an army which had burned its bridges behind it—to retreat meant destruction. Unless the radical course they had begun was definitely carried through, the Nobility of their province threatened to take fearful vengeance for the events at the close of 1788 and the beginning of 1789.[2] Their momentary safety was due to the

[1] Extract in Aulard. *La Société des Jacobins*, I, p. XII.

[2] Chérest, *La chute de l'ancien régime*, II, 376. "Jusqu'à la dernière minute, l'aristocratie bretonne resta sur la brêche, harcelant le tiers état de poursuites sans repit, et semblant prendre à tâche de soulever contre elle des rancunes inoubliables."

paralysis of the old organization and the arms of the "jeunes gens."

As to the formation of their committee at Versailles, it was probably contemplated by many of them before they left the province. The dangers to which they were exposed in common, the personal acquaintanceship of the majority of them,[1] together with the example of a similar committee of which a number had been members six months before, the clubs at Rennes during the session of the last estates, would alone have suggested it. But the organization was made necessary, in effect, by the formal instructions of several deputations to consult with their co-deputies relative to their *cahiers* and the events connected with the rioting of the 26th and 27th of January. At Saint-Brieuc instructions were given, "To unite with their co-deputies of Bretagne, to communicate to each other their *cahiers*, and concert together the means to be employed to secure the general welfare and the welfare of this province in particular."[2] At Quimper the deputies were to "require their co-deputies of the province to unite with them and to extend that union even to the deputies of the other provinces of the kingdom in order to cause to be repressed the audacity of a tribunal which dares to condemn the *mémoire* which His Majesty has well received, and to blame at once both the confidence of the subjects and the grace of the monarch."[3] Rennes and

[1] Le Téo in *La Révolution française*, vol. 36, p. 387, says: "Tous ces hommes se connaissaient personnellement, avaient intérêt à resserrer leurs relations dans une assemblée provinciale des députés de Bretagne." This statement must not be taken literally. It is not probable that they had all met to become personally acquainted—at least there is no evidence to prove it. On the contrary we find the deputies of Saint-Brieuc writing: "Car nous avons beaucoup d'aristocrates ici, même quelques uns parmi les députés de Bretagne," which would seem to show distrust of some of their colleagues, which could not have been the case had they known them personally.

[2] Art. I of the *cahiers*.

[3] *Procès-verbal* of elections. *Archives Nationales* B26, liasse 169 bis.

Plœrmel gave instructions to cause an investigation of the January riots in order to fix the responsibility, and also relative to the act of the Parliament of Paris in ordering the *mémoire* of the avocats of Rennes to be burned, without definitely charging their deputies to consult their colleagues.[1]

[1] *Procès-verbal*, April 16, of elections at Rennes. *Archives Nationales* B A 26, *liasse* 170 bis. *Cahiers* of Plœrmel, arts. 92 and 93. Ibid., 160 bis.

CHAPTER II

The Breton Deputies and the Breton Club in the States General and the National Assembly.

I

ORGANIZATION AND ORIENTATION

Thus, toward the close of April, under the vivid impressions of the confusion and dangers through which they had passed in their province, carrying with them the passions, still glowing, engendered by an exceptionally bitter strife, and in fear and distrust of the whole aristocratic body, the deputies of Bretagne arrived at Versailles, men tried in a common cause. Here they lost no time in procuring the means of regular communication with each other, for before all the deputies had arrived and while they were still disquieted over the absence of Kervélégan,[1] of Quimper, they engaged a hall where on the 28th of April they assembled for the first time.[2] As the States

[1] That they feared actual violence at the hands of the Nobility is shown by a letter of the deputies of Saint-Brieuc dated April 28, in which they say: "M. le sénéchal de Quimper n'est pas encore arrivé et cela nous inquiète, car nous avons beaucoup d'aristocrates ici."

[2] The correspondence of the deputies does not agree as to the date of the first meeting. Le Roulx states that the first meeting was held on the 30th of April (letter of April 30). Boullé gives the same date, but since in the original letter of Legendre of April 28 mention of a meeting is already made, it must be that Le Roulx and Boullé refer to the first meeting *at which they were present.*

The hall in which they met at first was not satisfactory, for on April 28 Legendre wrote: "J'ai élêvé des cris contre le choix de lieu de nos assemblées qui ne pouvait convenir par cela même que la salle ne devoit rien coûter, et j'ai été nommé commissaire avec M. de Fermond pour louer une autre grande salle." (Mss. Arch. of Brest). But we are not informed whether a change was actually made. On April 30, Le Roulx wrote that they met in a "corps de logis." According to a letter of Legendre on May 1, it was in "une salle très vaste." The statements of contemporaries and the voice of tradition agree in

General did not open until the 5th, they had before them a week which they employed in orientating themselves politically, in discussing the affairs of their deputation, their *cahiers,* and the question of the manner of voting. They had already learned of the attack[1] made upon the validity of their credentials by the Nobility and the Clergy at Saint-Brieuc, and in their very first meeting they considered the manner of their defense. The question was whether or not they should publish a reply at once or postpone their defense until their credentials should come before the States General. The latter course was decided upon.[2] For the next meeting, they determined to occupy themselves with the clauses in their *cahiers* demanding that all taxes voted by the States General should be subject to approval by the estates of Bretagne so far as they applied to that province, an important demand which was later to cause them considerable embarrassment.[3] It had been their intention to begin at once the coordination of the demands made in all the *cahiers* of the province, including those of the *curés,* but it soon appeared to them preferable to consider first of all the great fundamental questions which confronted the States General as a whole —the union of the orders and the manner of voting.[4] On April 30, the deputies of Franche-Comté, Normandy, Dauphiné, Guyenne, and Périgord were present at their meeting. Mounier, who was soon to become one of their strongest opponents, and who in 1792 laid many fatal acts

indicating the building in which the club met, as situated in the *Avenue de Saint-Cloud* and the *rue de la Pompe* (No. 44 in 1889) and the hall upon the ground floor as the one used by the club. See Aulard, *La Société des Jacobins,* I, pp. 3, 4.

[1] Declaration of the Clergy and the Nobility. *Bib. Nat.* Le23/170.

[2] MS. letter of Legendre and Moyot, April 28. *Archives de Brest.*

[3] Ibid. This was considered as an imperative mandate. See note 2, p. 67, below.

[4] Legendre and Moyot, May 1.

to their account,[1] was now held in high esteem at the club. Following his conciliatory inclinations, he attempted in this meeting to begin a movement for the purpose of causing an understanding between the three orders by means of extra-legal meetings in which the questions, foreseen to fall under discussion as soon as the States General opened, might be debated. With this object in view, he asked that for the next day a "comité général" of all the deputies of the three orders be called in a large hall. This was agreed upon, but Legendre assures us that the majority did not favor the project, nor could he see that any good would result from such a "cohue," it having been consented to out of condescendence to the "Orator of the Dauphine," who had just won over several *curés* for the vote by head in the preliminary question of deciding how the vote should be taken.[2] Nothing indicates whether or not this meeting ever took place.

It is not evident that the deputies of Bretagne from the first contemplated the holding of two parallel series of meetings. Their primary object had been to provide a means of union among themselves for the two-fold purpose of discussing the affairs of their province and deputation, and for the preparation for the debates in the assembly. But it is evident that in gatherings where the deputies of whole provinces appeared, these objects could no longer be served. Accordingly, Le Roulx writes on April 30 that it had been decided to hold, aside from the original assembly, another daily, open to all the deputies who desired to attend.[3] This latter assembly was the so-called *Breton Club*.

[1] *Recherches sur les causes qui ont empêché les Français de devenir libres.*

[2] Legendre and Moyot, May 1.

[3] "Outre cette assemblée particulière, il y aura une autre quotidienne pour tous députés qui voudront s'y rendre." MS. letter in *Archives de Lorient.*

Details regarding the internal organization of the club are entirely wanting. We know nothing of the manner in which its meetings were organized or controlled. They seem to have had a president to preside over the debates,[1] which, however, probably seldom assumed a formal character, for Barnave early in 1790 describes them as "conversations."[2] The Breton deputies never designated it by the name "club," nor is it so named in any strictly contemporaneous document, as far as I have been able to learn. The term occurs first in Mounier's *Exposé de ma conduite*, late in 1789, after the club had ceased to exist. Even here, it is not called the "Breton Club," but spoken of as composed of a group of deputies who were accustomed to "unite in a club." In the correspondence of the deputies, it is never in name distinguished from the smaller assembly composed exclusively of the deputies of Bretagne. "Comité de Bretagne," "Chambre de Bretagne," "Chambre de la Province," or "Assemblée de la Province," are terms applied to both, and it is sometimes difficult or impossible to determine which of the two is intended. It is certainly clear that, to the minds of the Breton deputies, the club never lost its character as an organization strictly in their hands. Without a fixed program of meetings, its workings and existence continued to depend upon the will of the Breton deputies in whose hall it assembled and who determined when it should come together. These depu-

[1] Dubois-Crancé, *Analyse de la Révolution française*, p. 49, says: "Lanjuinais présidait cette réunion." Both Buchez et Roux in *Histoire parlementaire de la Révolution*, II, 36, and Droz, *Histoire du régne de Louis XVI.*, II, 169, mention the Duke d'Aiguillon as having been president. Aulard, *Intro.* The Breton committee was later formally organized into committees and corresponded as a body, Legendre being president of it in February, 1790. See the *Bulletin de Brest* for Nov.–Mar., 1789–1790. In No. 16, vol. I, is a letter by Legendre, written as president of the organization.

[2] Aulard, *La Société des Jacobins*, I, *Intro.* XXVIII. *Réglement de la Société des Amis de la Constitution.*

ties formed the necessary nucleus which, as occasion seemed to demand, threw open its hall to the deputies of the other provinces. That the club did not possess an independent and permanent organization is evident from the manner in which Le Roulx and Boullé spoke of it. The former wrote on September 18: "Such a revolution has taken place as to strike the deputies of Bretagne. Their hall is *again* open to all deputies whomsoever, and they hope by this conduct, which is the same as that which they held before and after the 17th of June, to save the country from a cabal, alas, too evident." On December 18, Boullé wrote: "You will remember that in principle the deputation of Bretagne formed at Versailles a *comité particulier*" (i. e., a committee composed of deputies of Bretagne. It is the same term used by Le Roulx, on April 30, to distinguish the original assembly of the Breton deputies from the larger one which had just been formed for all the deputies) to which joined themselves *under difficult circumstances* all the friends of liberty. . . . The title, *Comité de Bretagne*, has just been changed to *Société de la Révolution*, which is to take a *regular form* by means of statutes which are being prepared."[1] Evidently, then, the club had for some time preceding the 18th of September suspended its meetings. It was only "under difficult circumstances" that "all the friends of liberty" joined themselves to the *Comité particulier*, and it was only in December that this *Comité de Bretagne* was to be given a "regular form."

What contemporaries later called the "Breton Club" thus appears from the strictly contemporaneous records left by those most intimately connected with it, as composed of merely an irregular series of meetings attended

[1] Kerviler, *Recherches et notices*, art. *Boullé*.

by a very variable number of deputies and in evidence especially during periods of crises. From the extracts above quoted, it will be seen that the membership was but little, if at all, controlled. It was a place of meeting for "all those who desired to attend."[1] To speak, then, of a list of members is to show a misconception of the nature of the club,[2] for the "membership" varied from meeting to meeting. This does not, however, preclude the idea that a certain number of deputies were regular in their attendance, and thus, in effect, formed a somewhat permanent membership. This conception of the club disposes, without argument, of all charges that it, as an organization, intrigued in secret or engaged in criminal plots of one kind or another.[3]

According to the different *mémoires* of contemporaries, many prominent members of the assembly attended the meetings of the club, among them Sieyès, Mirabeau,[4] Bar-

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[1] See note 3, p. 32, above. That there was no formal condition of membership is to be inferred, also, from the letter of an anonymous correspondent, dated July 9, 1789. "Il faut remarquer," he writes, "que les députés de Bretagne ont admis dans leur assemblée beaucoup d'autres députés de différentes provinces et qu'ils reçoivent tous ceux qui veulent y assister." *La Révolution française, July–December*, 1892. Dubois-Crancé writes: "Alors, le Club breton devint celui de tous les députés reconnus pour être les défenseurs de la cause du peuple. On présume bien qu'il s'y introduisit quelques faux frères, des émissaires de la cour; mais comme nous ne faisions rien que ce que nous eussions fait, sans scrupule, en place publique, nous attachions peu d'importance à cet espionnage." Extract in Aulard, I, p. XII.

[2] See the extract from Buchez et Roux, in Aulard, I, p. XVII.

[3] See extracts from Montjoie in Aulard, I, pp. IX–XI.

[4] Montjoie includes Mirabeau among the leaders of the club. In a pamphlet of 1790, *Vie privée et politique du roi Isaac Chapelier*, he is represented as controlling, with Le Chapelier, the Breton Club and the Breton committee. But I have not been able to find any trace of any connection between Mirabeau and the Breton deputies founded upon reliable evidence. On the contrary, he seems to have at first been held in horror by them. On May 8, Legendre and Moyot wrote: "Ce forcené (Mirabeau) livré à la fureur de son penchant pour la satire, ne connait aucun règle, aucune mesure, ne respecte aucune vérité, déchire, attise, et défigure tout le résultat des faits et cir-

nave, Bailly,[1] Pétion, Volney, Grégoire, Robespierre, Bouche, Charles and Alexandre Lameth, La Révellière-Lépeaux, Dubois-Crancé, the Marquis de Lacoste, and the Duke d'Aiguillon.[2] Regarding the number who were usually present, we have but very little evidence. Boullé wrote on June 10th that the evening before "all the better citizens from all the provinces were assembled there."[3] Droz says[4] that on the evening preceding the *Jeu de Paume* episode the Duke d'Aiguillon presided over a meeting of about 150, while the 22d of June, according to Grégoire, only 12 to 15 were present.[5] An anonymous

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constances dont il embrasse le détail." This outburst was occasioned by the manner in which Mirabeau had expressed himself in his journal, for which several of the deputies of Bretagne had subscribed. On June 2, they complain of the *Gazette de Leyde* "qui nous a calomnieusement rayé sous la bannière et dans la phalanx de M. le Comte de Mirabeau." Le Roulx, in a letter of May 15, expresses similar sentiments.

Professor Alfred Stern has kindly called my attention to an anonymous work he discovered in the city library of Zürich, *Luzifer oder gereinigte Beiträge zur Geschichte der französischen Revolution. Erster Theil. 1797.* In this work occurs the following passage: "Mirabeau suchte ihn auf (Le Chapelier, when he arrived at Versailles as deputy of the States General), denn Chapelier hatte sich durch seine freiheitseifernde Schritte mehr als ein Verhaftsdekret auf den Hals geladen, und also bekannt genug gemacht um des Aufsuchens werth zu sein. Man frug sich, man sondirte sich. Was ist Eure Absicht? Was verlangt Ihr? Freiheit der Personen und des Eigenthums, so weit sich dieselben treiben lassen, war Chapelier's Antwort. Gut! das wollen wir auch, sagte Mirabeau." As a result of this, Le Chapelier, it is said, was introduced to Adrien Du Port (and presumably also to the *Comité Du Port*) and thus led into the intrigues of Mirabeau and others to make political capital out of the position and wealth of the Duke of Orleans. Pp. 112–114. For this anonymous work see the *Zeitschrift für Geschichtswissenschaft*, 1890, in which Stern shows that Konrad Engelbert Oelsner was the author. Also *Revue historique*, 1897, January–April, p. 72 ff, where a translation with an introductory note, by Stern, is found. Oelsner was an intelligent observer who had a wide circle of acquaintances among the leading men in the assembly and at Paris, but he did not arrive in Paris until long after the incidents here in question.

[1] Zinkeisen, *Der Jakobiner-Club*, I, 73. Cites *Mémoires* of Bailly.

[2] For these names see the extracts published by Aulard.

[3] *Revue de la Révolution*, vol. XII, p. 49.

[4] II, p. 169, note 1.

[5] *Mémoires*, I, 380. In the *Mémoires de Condorçet sur la Révolution*

writer stated on the 9th of July that a short time before about 100 had been in attendance.[1]

II

THE MOTION OF THE BRETON DEPUTIES TO ORGANIZE A NATIONAL ASSEMBLY MAY 14

Everything indicates that the deputies of Bretagne arrived at Versailles embued with the sentiment that, since the Third Estate formed such a large portion of the na-

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française, etc., vol. II, p. 68, the number is given as 150, but as Condorçet was not present and since Grégoire participated, it is evident that the latter's account should be given preference, especially since the small number present is a fact that was specially noted in the meeting. See the extracts in Aulard.

[1] Correspondence published by Brette in *La Révolution française*, July–December, 1892. Letter of July 9.

Aulard (I, p. V), supporting his statement upon that of Alexandre Lameth (*Histoire de l'Assemblée constituante*, I, 421), and Zinkeisen (I, 61) without any further qualifications, represent the *curés* of Bretagne as having been members of the club. This statement is certainly contradicted by a mass of contemporaneous evidence. It is true that as far as we know there was nothing whatever in the nature of formal conditions excluding *curés* from attendance at the club, and it is certain that the Breton *curés* at first worked in close understanding with the Breton deputies of the Third Estate in affairs concerning their province, for Le Roulx wrote on May 3, "Dans l'Assemblée provinciale des députés de Bretagne, l'on va faire la concordance des cahiers des députés laïcs et des députés ecclésiastiques et fondre le tout en un seul cahier." This work, however, was given to a committee (letter of Legendre May 5, in which it is stated a committee of twelve was appointed of which he was member) and did not require the union of the two orders in the Breton Committee. In the *Affiches de Rennes* it is expressly stated (No. 43, May 13, 1789) in a letter of the deputies, May 3, that these committeemen were appointed in a meeting of the "Députés du peuple de Bretagne," by which is meant the deputies of the Third Estate,—so that even here the *curés* were not present. In the same paper, No. 42, is a letter from Versailles dated May 1, in which occurs the following passage: "Les députés du Peuple et du Clergé du second ordre de Bretagne, s'occupent d'un mémoire en réponse aux protestations et déclarations du Clergé et de la Noblesse, arrêtées à Saint-Brieuc," which shows that they made common cause against the privileged orders of their province, but also that the writers did not include the *curés* under the name *peuple*.

Further, the *curés* of Bretagne most vigorously seconded the principles of the Third Estate, in the assembly of the Clergy. They

tion, its deputies should, if need be, declare themselves competent to represent it. It is in advocating action in accord with this principle that they first make themselves remarked as a special nucleus in the assembly. As early as May 3, Le Roulx, in discussing the question of the vote by head, wrote that, "It will nevertheless be necessary to attack the question in some manner, and after having at-

formed there the same close unit as their co-deputies in the assembly of the Third Estate, resolutely opposing the measures intended to create difficulties for the latter order. (See *Bulletin de Rennes*, I, No. 18, where an account of their action on June 9 is given relative to the nomination of a committee to occupy itself with the question of the dearness of bread—that is, a committee to act in accord with a similar committee from the other orders, a proceeding to which they objected on the grounds that the States General were not yet formed). This course soon won them the title, the "Macedonian Phalanx." (*Hérault de la nation*, No. 46.)

But instead of joining the Breton Committee or the Breton Club where they could not prepare themselves for the specific work of their order, since these organizations were concerned with the discussions in the Third Estate, they seem to have formed an independent committee in which they prepared their resolutions. At least when they were confronted with the important question as to whether or not they should desert the order of the Clergy to unite with that of the Third Estate, they held a meeting to decide what course to follow. (*Bulletin de Rennes*, I, No. 20. The meeting was evidently held on June 14.) Had the Breton *curés* been accustomed to attend the club, how could the deputies of Saint-Brieuc have written on June 16 the following suspicions, betraying total ignorance of the sentiments of the *curés*: "Il nous arrive journellement des curés qui desertent la chambre de l'eglise pour se joindre à nous. Dans le nombre de ceux qui sont membre de notre assemblée, on ne compte encore que trois bretons, les deux dont on vous a parlé dans notre précédente et celui du Minihy, évêché de Tréguier. Mais des autres, et surtout de ceux de notre évêché de Saint-Brieuc nous n'avons point encore entendu parler. (!) Il est vrai qu'on assure qu'ils viendront aussitôt que le clergé qui depuis près de huit jours, délibère sur notre arrêté du 10, aura pris une résolution définitive. Si ces gueux de curés nous manquent et ne suivent pas l'exemple de leurs généreux confrères, nous sommes décidés à les dénoncer à la nation comme des gueux, destraîtres à leur patrie. Nos pauvres curés sont bien faibles, ils craignent les évêques qui se moquent d'eux et les bercent de promesses qu' ils n'effectueront pas." In a letter of Boullé of May 22, in speaking of the rector of Pontivy, second of the Breton deputies to desert the Clergy, the writer says: "Nos demeures sont éloignés et comme nos assemblées ne se tienent pas dans le même lieu, nous nous voyons assez rarement." Boullé was an enthusiastic member of the Breton Club, and had the rector of Pontivy been accustomed to attend the meetings, there could have been no occasion to write this.

Had the Breton Committee been formed by the *curés* and Third Es-

tempted all the means of persuasion in order that the two orders unite to vote by head, if they persist in refusing this important demand, to cut to the quick, in declaring that the Third Estate, being essentially the nation, constitutes truly the representation of the entire kingdom by its representatives at the States General."[1] The same fundamental thought had been incorporated in the important *cahiers* of Rennes, of which article 2 reads: "It is by a fatal error that that which is called the Third Estate, which comprises more than ninety-nine hundredths of the nation, has been qualified *order* and placed in the balance with the two privileged classes. That error ought now to cease, and that which has until now been named Third Estate in the kingdom shall be comprised, with or without the privileged, under the same denomination, and called *People,* or *Nation,* the only name which expresses the truth and is worthy the dignity of the Nation."[2]

What aid they anticipated from the government in the execution of such a program we have no evidence to show. In their correspondence, they hardly permitted themselves

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tate in common, the deputies of the latter order would never have referred to it as an assembly of their order alone, as they did on a number of occasions. Thus in the *Bulletin de Rennes*, No. I, 4, is the passage, "Les députés du Tièrs-Etat de Bretagne se sont réunis." Again in No. 2, "Les députés du Peuple de Bretagne." So also Pellerin on May 15: "Les députés du Tièrs-Etat de Bretagne s'assemblent dans leur chambre particulière."

From the foregoing, I conclude that the *curés* of Bretagne—although individual members may have attended both the Breton Committee and the Breton Club—did not in any real sense form a part of either of these organizations until the union of the orders in June—and we have no positive evidence to show that they did even then. If now we remember that as early as August, 1789, a number of the Breton *curés* were so far out of accord with the Revolution as to resign their commissions as deputies, we may well question whether any of the credit or discredit attaching to the work of the Breton Club is to be assigned to them, especially since the principal work of the club, so far as we know, was performed in its efforts in the period of the conferences and organization of the Assembly, and in aiding to carry through the 4th of August resolutions.

[1] *Archives de Lorient.*

[2] *Archives nationales*, B A 26, liasse 176bis

to express an opinion regarding the attitude of the government in the opening session.' Le Roulx is the only one who gives evidence of great dissatisfaction at Necker's statement that there might be occasions in which the States General should deliberate by order. "I shall not retire to-night," he writes, "until I have caused my views to penetrate to the ministry."[1] It does not seem that they really wished to submit the question of the manner of voting and of verifying credentials to a discussion between the orders. There is, on the other hand, a tacit assumption that the vote by head and the verification in common is the only manner permissible, imposed by an imperative mandate which the Third Estate could not disregard even if a contrary command should come from the king himself.[2]

For a week after the opening, they hesitated to formulate their action, following a course of inertia. Naturally they opposed any attempt of the Third Estate to act as an order, for this would conflict fundamentally with their position, which required action as the representatives of the nation or not at all. Accordingly, we find Le Roulx vigorously opposing the motion of Malouet on May 6, asking for a formal deputation, inviting the privileged orders to join the Third Estate.[3] He was greatly incensed at Malouet and condemned with him even Mounier to whom such deference had been shown at the Breton Club on

[1] Letter of May 5. Also extracted by Kerviler, *Recherches et notices*, art. *Le Roulx*.

[2] See p. 48 below. That they actually regarded the vote by head as imperative, we must conclude from their action in July relative to the motion of Tallyrand concerning this kind of instructions. In regard to this motion, Le Roulx wrote on July 15: "Nous avons crains qu'il n'interdit que le vote par tête était impératif. C'était l'objet de notre amendement." The *cahiers* of Saint-Brieuc, Brest, Rennes, Vannes, Plœrmel, Quimperlé, and possibly others either expressly demanded or implied that the vote should be by head.

[3] Letter of Le Roulx, May 8.

April 30.[1] On May 8, he prepared a motion which he intended to present at once, but of which we hear nothing further. It expressed the policy of inertia and reads as follows: "I, therefore, move, gentlemen, that we come here each day at 9 in the morning and remain until 2 o'clock in the afternoon, in order to await the arrival of the Clergy and the Nobility, and in case of failure by these two corporations, or by one of them, to have united with us by next Tuesday, a motion shall be made on this same day tending to operate without further delay and by the immense means we have in ourselves, the prosperity of our country and the happiness of the best of kings."[2]

On May 13, the Breton deputation concluded that the time for action had arrived. The obscure manifesto contained in the motion of Le Roulx was replaced by a motion which Le Chapelier was instructed to draw up[3] and which he presented in the assembly of the Third Estate the next day.[4] In a letter of Boullé of May 15, the import of this motion is given as follows: "The second motion (i. e., Le Chapelier's) was to publish a declaration

[1] Ibid. "Le soir, je rencontrai M. Malouet dans le parc ayant 50 personnes autour de lui. J'attaquai vigoreusement les principes qu' il avait établis le matin, et je le battis si complètement qu'il fut obligé de s'excuser sur sa faible poitrine de ne pouvoir me répondre. Hier mâtin il arriva avec un discours apprêté, dont la conclusion était la députation. M. de Mounier, de Grenoble, le seconda, et il fut proposé que tous les votants pour la députation passassent d'un côté, et voilà mes moutons à courrir à nommer entre eux des députés."

[2] Ibid.

[3] Boullé, May 22. "Cette seconde motion (Le Chapelier's) venait de la Bretagne; elle avait été convenue entre nous et M. Chapelier chargé de la présenter l'avait fait avec applaudissement." *Revue de la Révolution*, vol. XI, p. 16.

The decision of the Breton deputies was reached at 9:30 on the evening of May 13, and the formal draught of the motion was probably not presented to the assembled deputation, for Le Roulx wrote on May 15: "Nous n'eûmes pas le temps de lire cette motion," and yet he was present at the meeting. If it had been laid before the deputation there would have been no necessity of reading it.

[4] Letter of Boullé, May 15. *Revue de la Révolution*, vol. XI, p. 12.

of which the plan was proposed, by which, after a summary of the facts and motives of the inaction of the deputies of the commons, all the deputies of the States General are invited to render themselves to the place of assembly in order to enable it to form itself, protesting that those who refuse will remain responsible toward the public for the consequences of their refusal and for the delay which will be caused by it. This declaration will be remitted to the assembled members of the church and the Nobility, repeated in stronger terms at the end of several days, and even several times if necessary, and in this way prepare the final resolutions of the deputies of the commons."[1]

This was a premature signal of revolution. The deputies of Bretagne urged action for which the majority were prepared only a month later. The motion of Le Chapelier involved the assumption of the legislative power of France by the deputies of the Third Estate, and that it was so understood is evident from the speeches we possess of the four days during which it was debated. According to the *Courrier de Provence,* Mirabeau on May 18, in advising a middle course between the motions of Rabaut and Le Chapelier, affirmed, "That a step as memorable, as new, as profoundly decisive as that of declaring ourselves National Assembly and of pronouncing the other orders at fault, can never be too well prepared, too measured, too imposing."[2] In the *Hérault de la Nation* of May 22, 1789, after a discussion of Le Chapelier's motion and that of Laborde of May 20, the writer says: "After the explanation of their measure, and if the desired union does not take place, the commons are, according to what is assured

[1] Letter of Boullé, May 15. *Révue de la Révolution,* vol. XI, pp. 12, 13.

[2] *Courrier de Provence,* I, p. 58.

us, determined to declare themselves the *ensemble* of the nation; to constitute themselves its natural and legitimate representatives, and in that quality occupy themselves with the public affairs conjointly with those of the church and the Nobility who may wish to join them."[1]

But if this motion was revolutionary in that it was clearly intended to prepare the way for the deputies of the Third Estate to assume the powers of a national assembly, the means by which it was intended to execute it were still more so. There was no invitation to argument —indeed the theory upon which the motion was based made argument impossible, because no legal parties capable of argument were recognized as existing—nor was there any appeal to any constituted authority. The appeal was directly to the unorganized nation; to the people as individuals.[2] The proceedings of the Third Estate

[1] No. 46.

[2] That the intention was to make an appeal to the people directly is not only to be inferred from the motion itself, but was expressly stated at the time. In the *Bulletin de Brest*, I, No. 2, is published under date of May 17, 1789, a letter from the deputies of Brest in which occurs the following passage: "Nous demandons que cette invitation soit imprimée et publiée dans les provinces, avec le compte exacte de nos démarches vis-à-vis les deux orders privilégiés; ce compte contiendra en outre le détail circonstancié de nos occupations journalières, et des moyens que nous avons mis en usage pour prévenir et éviter tous les inconvéniens et les obstacles qu'on nous suscite actuellement. Nous ferons connaître également nos résolutions relatives au cas où la Noblesse insisterait dans la scisson qu' elle a formée, et à celui du Clergé de la première classe continuerait à tenir une conduite équivoque et versatile."

In the *Hérault de la Nation*, No. 46, we find under date of May 22: "Si on les parcourt inutilement (i. e., the conferences) si les deux classes séparent de la nation, comme le firent les Tribus de Somaire, les communes, d'après les proposition de MM. de la Borde et de le Chapelier, paraissent décidées à publier, non un manifeste, mais un tableau fidèle de leur conduite, afin d'instruire la France que leurs soins, leurs tentatives, leurs prières, leurs recherches ont été infructieuses; afin d'instruire toutes les provinces de l'empire que des intérêts particulières, des préjugés politiques s'opposent à ce qu'on s'occupe de leurs pressans besoins; afin d'apprendre au peuples libres et aux nations esclaves, que le despotisme ou l'oligargie ne perdent jamais leur esprit de conquête, d'asservissement et de conservation."

Boullé wrote on May 22: "La nécessité d'instruire le public et de

were to be published for the judgment of the people, and by this means they intended to force their way.

It is significant that in the four days of debate which followed the introduction of the motion of Le Chapelier few, if any, contested the principles contended for by the deputies of Bretagne. The objections were based upon grounds of expediency; later, it was said, if attempts at conciliation failed, they should be forced to adopt measures such as proposed; but every means of persuasion must first be exhausted in order to avoid all causes for reproach to the Third Estate and to assure the approval of the people.[1] When the motion came to the vote it was lost by the crushing majority of 320 to 66,[2] showing that at this time the number of those who followed the Breton advice was very small.

III

THE BRETON DEPUTIES AND THE CONFERENCES—THEIR STANDING WITH THEIR COLLEAGUES AND THE PUBLIC

During the debates on Le Chapelier's motion, the deputies of Bretagne had insisted that the proposed conferences would not lead to any useful result, that such de-

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le faire assister en quelque sorte à nos séances de nous envestir de son opinion qui doit faire toute notre force et qui peut seule vaincre la résistance des privilégiés." *Revue de la Révolution*, vol. XI, p. 19.

[1] Letter of Boullé, May 22: "Mais en louant le zèle qui l'avait dictée (the motion of Le Chapelier) on a regardé la déclaration dont on donnait le projet comme une manifest qui, par la raideur et l'inflexibilité des principes, peut-être prématurement annoncé, donnait lieu d'imputer aux communes d'avoir haté la rupture dans le temps même où on leur proposait une conciliation." *Revue de la Révolution*, vol. XI, p. 16.

In his letter of May 15, Boullé gives a resumé of the arguments made up to that time. Ibid., 12–14.

See also *Bulletin de Brest*, I, No. 2, pp. 6, 7.

[2] *Correspondance de MM. les députés des communes de la province d'Anjou*, I, No. 3, p. 45, and Boullé, letter of May 22, *Revue de la Révolution*, vol. XI, p. 16.

ference shown to the privileged orders might even be interpreted by the people as weakness.[1] When the motion was lost, they resigned themselves with sufficiently bad grace to a period of waiting in which they felt that the position of their order was continually more endangered. They now formed a restless group, the group of advance out of accord with the prevailing opinion in their order, taking every opportunity to urge that the time for decisive action had arrived.[2] That they were kept well informed of the progress of the conferences, we may assume, since their leader, Le Chapelier, was member of the conference committee.[3]

The necessity of justifying themselves in the eyes of the people, an idea contained in the motion of the 14th of May, had been felt by many outside of the Breton deputation. Laborde, who had favored Le Chapelier's motion as a whole,[4] on May 20th recurred to this part of it in a new motion in which he asked that a committee be appointed charged with preparing those parts of its pro-

[1] *Bulletin de Brest*, 1, No. 2, pp. 6, 7.

[2] On May 24, Champeaux-Palasne wrote: "Nous sommes toujours . . . dans la même position. C'est-à-dire que nous attendons, pour prendre un parti, que nos conférenciers aient fait leur rapport à l'assemblée. Comme les conférences ont commencé hier, le rapport se fera demain, et ce sera le signal de nos grandes opérations." *Société d'Emulation*, etc., vol. XXVI, p. 227.

On June 5, the deputies of Saint-Brieuc wrote: "Toutes ces conférences cependant n'aboutiront à rien, et il en faudra toujours revenir au point de nous constituer en Assemblée nationale. Il y a même longtemps qu'on eut dû prendre ce parti, que la Bretagne avait proposé et on commence à regretter de ne l'avoir pas fait." Ibid., 230.

Le Roulx on May 26: "Je présume que M. Le Chapelier va être conduit à renouveller sa motion."

[3] Le Chapelier, who from the first assumed the leadership of the deputation and frequently acted as its spokesman, seems to have made a strong impression upon the assembly of the Third Estate at a very early period, probably during the debate on the motion of the 14th, in which he was applauded (Boullé, May 22). He was elected on the conference committee by 413 votes. Letter of the deputies of Saint-Brieuc, May 19. *Société d'Emulation*, etc., XXVI, p. 224.

[4] Pellerin, May 20. Correspondence published by Bord, p. 25.

ceedings which the Third Estate might wish to publish and send into the provinces to instruct the people of the measures which had been taken to bring about the union of the orders. This was an attractive proposition and it seemed that the Breton deputies favored it at first,[1] but as the discussion was not completed on the 20th, and hence no decision reached, Laborde and Target on the 22d introduced a new motion in which they asked for the publication of a journal of the proceedings of the assembly to which was to be added an exposé of motives.[2] But by this time the Breton deputies had seen that such a step would bring the Third Estate into fundamental contradiction with its assumed attitude, for an assembly which published its proceedings could be considered as constituted.[3] Thus, anxious as they were to explain to the people their real position, they voted against the motion, which was lost by an overwhelming majority.[4]

When on May 28th the Third Estate received the letter of the king asking that the conferences be renewed in the presence of the guard of the seals and the royal commissioners, the deputies of Bretagne were placed in an extremely embarrassing position. The letter was a fresh blow to their hopes, for to obey meant new delay, when

[1] Le Roulx on May 22, as also Maisonblanche and the deputies of Saint-Brieuc, favored the motion of Laborde. For Maisonblanche see Kerviler, *Recherches et notices*, art. *Maisonblanche.*

[2] The fullest account of the debates over these two motions is found in the *Correspondance de MM. les députés des communes de la province d'Anjou*, I, 30–53.

[3] Champeaux-Palasne wrote on May 24, relative to this motion: "Comme, jusqu'au moment où nous sommes constitués en corps de nation, nous ne pouvons rien faire qui aient un air de délibération légale sans courir les risques qu'on nous objecte que nous admettons la distinction des ordres, on sentit le piège, et la motion fut rejettée à la pluralité de 387 voix contre 39." *Société d'Emulation*, XXVI, 227.

[4] Legendre and Moyot, May 22: "Et cette motion a été rejettée de mon avis et de l'avis presqu'unanime de la province." MSS. *Archives de Brest.*

they had already for two weeks insisted upon the futility of negotiations. They were at that very moment speculating upon the advisability of renewing Le Chapelier's motion of May 14 and of constituting the National Assembly,[1] and now the king seemed to throw his authority on the side of the privileged orders to embarrass the Third Estate. They believed in the good faith of Louis XVI., to whom, according to all our trustworthy evidence, they were sincerely attached. The king had granted the Third Estate of Bretagne many of the demands made at the close of 1788 and the beginning of 1789,[2] for which a feeling of profound gratitude had manifested itself throughout the entire province. Their correspondence indicates that the deputies fully shared this feeling upon their arrival at Versailles.[3] Until now the government had held aloof from the contest between the orders, and to the deputies of Bretagne its position seemed unknown.[4] Nor did they wish to accept the letter of May 28 as an evidence of the king's real attitude. Following a long-standing tradition, they laid the blame upon the evil counselors who surrounded him.[5]

But whatever their regard for Louis XVI., or whatever their faith in his good intentions, they were not prepared

[1] See note 2, p. 45, above. On May 26, Boullé wrote: "Il me semble que ce n'est plus le temps de temporiser et d'user de ménagements et que nous ne pouvons nous dispenser de prendre un parti dont ma première lettre pourra vous instruire." *Revue de la Révolution*, vol. XI, p. 50.

[2] For these demands see Pocquet, *Les origines de la Révolution en Bretagne*, II, chaps. 2 and 3. To these demands the election regulations of the 16th of March, expressly for Bretagne, may be said to be the response. *Archives Nationales*, B^{A}25, liasse 43. Reprinted in the *Société d'Emulation* with the correspondence of the deputies of Saint-Brieuc.

[3] See pp. 57–59, below.

[4] Ibid.

[5] This thought is frequently expressed in the correspondence of the deputies of Bretagne. See note 1, p. 59, below.

to accept him as umpire in the dispute between the orders. This the nation must decide—the nation, according to their conception, as represented in the deputies of the Third Estate.[1] Otherwise a simple decision of the Council might at one stroke dispose of the pretentions of their order. In this crisis, they did not hesitate to reject the king's mediation, especially since the Nobility had by a new vote just declared that the vote by order and the veto of each order over the decisions of the others were inherent in the constitution of the monarchy.[2] When the *Sénéchaussée* of Rennes was called, Glezen moved that the Third Estate now constitute itself an active assembly, since no compromise was henceforth to be thought of; that all previous conferences had led to nothing useful, and that all future ones would be equally futile—they might even give rise to a decision of the king of which the consequences could become very dangerous.[3] To this Le Chapelier added that, with the act of constituting, a deputation to the king with an address containing the senti-

[1] The relatively moderate Legendre wrote on June 2 that the preceding evening they had discussed in the assembly of the province a mémoire of the avocats of Rennes against the parliament of Paris which had condemned their address to the king, of the beginning of February, to be burned (see p. 21). Regarding this mémoire, he says: "Mais j'ai particulièrement et le premier observé la nécessité de la corriger dans la partie où on invoque l'autorité du roi comme le refuge suprême des dissentions qui peuvent s'élever *entre les ordres*." (Italics in the original.) *Archives de Brest.* The inference is clear that he did not recognize the king's authority in this question and also that he was not alone in taking this stand, since he was the *first*.

Under the date June 4 is entered in the *Bulletin de Brest*, I, No. 8: "M. le Chapelier . . . a dévoilé l'inexactitude du rapport qui venait d'être fait des conferences, et les atteints données par les commissaires du roi aux droits de la nation, par l'observation qu'ils avaient faite que le roi n'avait pas renoncé à la décision dans son conseil, des difficultés qui pourraient s'élever entre les trois ordres."

[2] Letter of Boullé, May 28, *Revue de la Révolution*, vol. XI, p. 115. Duquesnoy, I, p. 52.

Récits des séances des députés des communes, p. 44.

[3] *Bulletin de Rennes*, I, No. 13.

ment of the order be voted.[1] Nearly the entire Breton deputation joined in the demand of Rennes, as also did Camus who supported his opinion by a speech fully setting forth his motives.[2] But again the Breton proposition was lost.

On the 28th, before the vote was taken, it became evident to the deputies of Bretagne that their motion would be rejected. It seems that some of them then bent their efforts to prevent the acceptance of the renewal of the conferences without conditions.[3] Mirabeau on May 29,

[1] Ibid.

[2] Boullé May 28: "Cet avis (i. e., that of Rennes) a été presque généralement adopté par les députés de Bretagne." *Revue de la Révolution*, vol. XI, p. 115. *Bulletin de Rennes*, I, No. 13.

[3] Boullé, May 28: "Mais il paraît que le plus grand nombre est d'avis d'adopter encore les conférences."

Le Roulx wrote on the same date: "Mais nous tâcherons au moins que le résultat des conférences qui se tiendront chez Monsieur le garde des sceaux ne soit pas seulement porté au roi par les commissaires qu'il aura nommé, mais que le procès-verbal de ces conférences soit arrêté et signé tous les jours par les commissaires des trois ordres et présenté au roi par un nombre de députés." This amendment passed the next day. *Récits*, p. 48. It is almost certain that the deputies of Bretagne were actively concerned in the attack upon the bureau on the 30th of May, relative to the question as to whether the conferences had been accepted under the condition that a deputation be sent to the king *with* or *before* their re-opening, for Le Roulx, in a letter of May 30, writes: "Il résulte une rixe de parole entre l'assemblée et le bureau soutenu par une portion des membres malintentionné qui adoptaient le mot avec."

In regard to this incident, the *Bulletin de Brest* says, under date of May 30: "Le trouble et le désordre se sont emparés de la chambre des communes, et pendant cinques heures entières on a demandé à aller aux voix, pour confirmer ou rétracter les conférences annoncées par le doyen, sans s'être assuré de la députation préalable au roi. Dans ce trouble, et par une circonstance propre à l'augmenter, il a été vérifié que les opinions recueillies dans la nuit d'hier, portaient évidement contre l'acception des conférences; que le doyen et ses adjoints avaient abusé de la confiance de l'assemblée, en comptant *pour*, les voix qui n'avaient accepté les conférences qu'à la condition qu' ellés auraient lieu dans la salle commune, les trois ordres ajournés, et non dans le cabinet de Mgr. le Garde-des-Sceaux et devant des commissaires, que Sa Majesté prendrait dans ses ministres et dans son conseil."

It is to be noticed that Le Chapelier's idea of addressing themselves to the king is involved in this difficulty.

To determine whether the amendment contained the word *avec* or

in pointing out the dangers to the Third Estate, whether it accepted or rejected the mediation of the king, urged the deputation and address demanded by Le Chapelier the day before as a condition of acceptance.[1] The deputies of Bretagne were drawn to support this plan by two powerful considerations, namely, the necessity they felt of acquainting the king with the real sentiments of the Third Estate and the opportunity it gave them to inform the people of their position. The address, drawn up by Le Chapelier,[2] was presented on June 6.

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après recourse was had to the copies kept by the different deputies, since the secretaries were unable to determine the question positively. The reporter for the *Journal de Paris* wrote for the session of May 30: "Dans presque toutes les copies on a trouvé *avec*, en ligue, mais effacé, et *après*, au-dessus, entre deux lignes, mais en entiers, ce qui a prouvé que le mot *après* avait été substitute et préféré au mot *avec*, mis d'abord dans l'amendement." (No. 152.)

This was certainly the result of more than a mere accident. It is evident that nearly all had understood *avec*, or why should they have entered it in their notes originally? Certainly no one made a formal correction of the word on the evening of May 29 or the discussion in the assembly could never have arisen on the 30th. How then did this systematic change of the word come about? We can not believe that the word *après* was substituted for *avec* spontaneously by the different deputies. By the energy with which several Breton deputies expressed themselves on the subject, and by the fact that the change was entirely in accord with their sentiments, the thought suggests itself very strongly that we have here a maneuver of the Breton Club in instigating the change of words in question.

[1] *Courrier de Provence*, I, pp. 116, 117.

[2] Kerviler, *Recherches et notices*, says, on the word of Pellerin, that Le Chapelier drew up the address. Art. *Le Chapelier.* *Bulletin de Rennes*, I, No. 23: "On la (the address) dit de M. le Chapelier. Il a été généralement applaudi."

According to Boullé, Le Chapelier's original intention was "d'envoyer au roi une députation solennelle chargée d'éclaircir sa religion, de lui mettre sous les yeux l'exposé de ce qui s'est passé jusqu 'à ce jour, le résultat des premières conférences et une adresse qui, avec l'impression de nos sentiments, contiendront les principes dont nous ne pouvons nous écarter et en vertue desquels nous déclarerons nous constituer en Assemblée Nationale." May 28. *Revue de la Révolution*, II, p. 115. The address, then, presented after the action of June 10 was outlined by Le Chapelier as early as May 28. See the *Procès-verbal*, I, 41 ff.

In the address presented on June 6, Le Chapelier expressed the Breton hatred of the privileged orders, but also a desire to be just. While denying in diplomatic language the authority of the king to

This energetic urging of revolutionary measures caused the deputies of Bretagne to be viewed in a very unfavorable light by many even of their own order. Some believed them in league with Mirabeau who was still regarded as an unprincipled agitator. Such was, as early as May 7, the opinion of Duquesnoy,[1] who, like the *Gazette de Leyde*,[2] credited them with the project of dissolving the States General. He believed that they desired merely to humiliate the Nobility; that if they succeeded in this it was of little consequence to them whether or not the nation were free. On May 30, a correspondent whose name is not known wrote to the ministry: "We have learned from a trustworthy source, and this merits the most serious attention, we have learned that the deputies of Bretagne have formed the project of thwarting all the operations of the chamber and of so arousing the minds as to prevent the holding of the States General. It has been remarked that the opinions the most extreme and the most violent come always from them. They have a double interest in sustaining their system. It is said that their province pays much less than the others and that they fear an equal partition. They have an old quarrel with the Nobility of their country and, always occupied with the vengeance they meditate against it, they

decide the difficulty then existing between the Third Estate and the privileged orders, he makes a pathetic appeal to him to place his confidence in his people who were sincerely attached to him, rather than ally himself with the aristocracy, enemy of both himself and his people.

[1] *Journal d'Adrien Duquesnoy*, I, 9. Writing of Mirabeau he says: "'Il me paraît évident, et à tous les bons esprits, que, M. Necker n'ayant pas voulu achêter son silence ou son appui, il veut faire dissoudre les etats, pour entraîner le ministère dans leur chute. Malheureusement, il a beaucoup de partisans. Tous les Bretons sont de son bord; ces gens-là ne voyant dans l'assemblée des etats qu 'un moyen, une occasion d'écraser la Noblesse, contre laquelle ils ont une fureur insensée, il leur import peu que la nation soit libre, heureuse, pourvu qu'ils humilient la Noblesse."

[2] See note 4, p. 35, above.

have imagined that, if the States General were not held, they would cause all the odium of that rupture to fall upon it, and that the Bretons, irritated by this supposed maneuver, would persecute (*poursuivraient*) it to the last extreme and end by annihilating it. Such is the project of the deputation of Bretagne; we are assured of it from a good source. This project has transpired. The government ought to imitate the Chamber and second its views."[1] To oppose this supposed project a meeting composed of deputies of the Third Estate was called on May 30, at which twenty-five were present. Here it was resolved to watch closely the Breton deputies, to warn their colleagues against their designs, and to league themselves against all their motions.[2]

By another element in the assembly and by the people outside, the deputies of Bretagne were much better understood. Bretagne had won the admiration of the people of Paris and Versailles during its revolution, so that when the deputies of Rennes entered at the opening session they were singled out by the spectators as the mark of special applause.[3] In the assembly they had already won the title, "Grenadiers of the States General."[4]

IV

THE TRIUMPH OF THE BRETON CLUB, JUNE 10–17

Although the Breton deputies had found but little support when they attempted on the 28th of May to have rejected unconditionally the king's offer of mediation, when

[1] *La Révolution française*, vol. XXIII, p. 461.

[2] Ibid. Letter of May 31 and June 1.

[3] *Revue des Etats Généraux d'après des journaux et des correspondances inédites*, by Pellerin, published by Bord with the correspondence of Pellerin.

[4] Letter of the deputies of Saint-Brieuc, May 19. *Société d'Emulation*, XVI, 224.

it became apparent that the new conferences were also to end in failure, others too began to feel the necessity of decisive action.[1] Of these many saw in the Breton Club, which at this time assembled almost every evening,[2] a convenient means of preparation as well as a nucleus of energy,[3] so that its attendance and influence suddenly increased enormously. It was undoubtedly, as Le Téo supposes, at this time[4] that Dubois-Crancé presented himself at the club to ask admission for himself and the deputies of several other *bailliages*. "Then," says this deputy, "the Breton Club became the club of all the deputies recognized as the defenders of the cause of the people."[5] For several days before the decisive 10th of June it had been said that at the close of the *procès-verbal* of the conferences the Third Estate would constitute itself an active assembly,[6] but in the feeling, becoming each day more intense, that a crisis faced the order, it was left for the Breton Club to formulate a definite resolution. It was

[1] Thus the deputies of Saint-Brieuc on June 5: "Il y a même longtemps qu'on eût dû prendre ce parti, que la Bretagne avait proposé et on commence à regretter de ne l'avoir pas fait." See also the letter of June 3 in *Relations des événements*, etc. *La Révolution française*, vol. XXIII, p. 467. Boullé, June 8.

[2] All our evidence indicates that the month of June marks the period of the greatest activity of the Breton Club. In the correspondence of Pellerin numerous meetings are mentioned at the close of May and the beginning of June. On June 5, Le Roulx wrote: "Nous avons actuellement assemblée tous les soirs à la chambre provinciale."

[3] See extract from Dubois-Crancé, Aulard, I, *Intro.*, XII.

[4] *La Révolution française*, vol. XXXVI, p. 391.
Dubois-Crancé says that on entering the assembly of the Breton deputies, he repeated an expression which had been used in the assembly of the Third Estate—"La noblesse tranche; le clergé ruse; la cour corrompt; nous n'avons pas de temps à perdre pour déjouer les complots de nos ennemis." Aulard, I, *Intro.*, XII. These words were pronounced in the evening session of May 29 by a deputy from Picardy (*Hérault de la nation*, No. 50), so that Dubois-Crancé must have spoken them between that date and the 10th of June; otherwise they would no longer have had any application.

[5] Aulard, I, *Intro.*, XII.

[6] See note 1 above.

here that Sieyès' motion was first introduced and discussed during the evenings of the 8th and 9th of June.[1] "At 9 o'clock I went to the *Salon de Bretagne,*" wrote Boullé on June 10. "It was this evening truly the temple of patriotism; all the better citizens of all the provinces were assembled there. They examined, they discussed the means of constituting an active assembly, and the plan of the Abbé Sieyès of whom I have already spoken, appeared to be generally approved. But a deputy, in communicating some information which he said he had received from a reliable source, excited great alarm. A committee of aristocrats, daily assembled at Madame de Polignac's to oppose the views of the nation and to plot its destruction, had decreed the sinister project which it was upon the point of causing the government to adopt. Under pretext of the divisions which had from the first paralyzed the States General and rendered them incapable of fulfilling their mission, they resolved to dissolve them, or at least, to prorogue them, which differs only in the term. A royal session was to be held before the end of the week; and the parliaments, regretting that they have obtained too much, reassuming the exercise of a right which they had recognized as belonging to the nation only, after having so long exercised it to the prejudice of the nation, were to register all the laws, constitutional, political, and civil which circumstances or the needs of the government might demand. M. d'Esprémenil, the soul of this committee, at which the letter of the king which caused the renewal of the conferences had been drawn up, at the moment when our pressing invitation embarrassed the Clergy, and at which, to our misfortune and shame, several of our members attend, M. d'Esprémenil answered

[1] Boullé, letter of June 9. *Revue de la Révolution*, vol. XII.

for the parliament of Paris, and the parliaments of the provinces of which they expected soon to receive the consent, had been written to. These reports, which by their consistency and by the manner in which they were made did not lack the appearance of truth, caused everyone to understand that there was not a moment to be lost, and it was resolved to hasten with all possible efforts the deliberation which, in giving us an existence, would put us at the same time in condition to defend it. It was with these dispositions, that we presented ourselves at the session of the next day."[1]

Thus, for the third time, the formal motion to constitute came from the Breton deputies or their club, for the motion of Sieyès on June 10 was the same, in its essential points, as that of Le Chapelier on May 14, renewed, in effect, on the 28th. Circumstances, necessity, had now driven the Third Estate to the point where the deputies of Bretagne had really arrived before leaving their province. Their previous attitude was now vindicated, their predictions had come true, for the Third Estate now felt itself surrounded by difficulties and dangers which many thought would have been avoided had the present step been taken earlier.[2]

To prevent further temporizing, to confront the privileged orders bluntly with the issue and force them to assume a definite attitude, the Breton Club intended to force its motion through the assembly with the least possible delay and to begin the call of the *Bailliages* and *Séné-*

[1] *Revue de la Révolution*, vol. XII, pp. 49–50.

[2] Boullé, June 3, wrote: "Au reste on a eu occasion d'observer dans la discussion combien les conférences qu'on avait eu la faiblesse d'accepter étaient dangereuses, la lettre du roi qui y avait donné lieu ayant été évidement surprise à sa religion." Ibid., p. 8. See also note 1, p. 53, above.

chaussées on the same day.[1] It was, undoubtedly, to prevent the adjournment of the reply from the privileged orders that Sieyès proposed to allow only one hour between the summons and the beginning of the verification of credentials.[2] But in this attempt to carry both the assembly of the Third Estate and the other orders by storm they failed, as Boullé writes, largely through their own impatience,[3] the decisive vote not being taken until the evening session.

In introducing his motion, Sieyès announced that it was merely preparatory in character, and that should it pass, he had another to present to the assembly.[4] Without doubt he referred to the motion he introduced on the 15th, proposing to constitute under the name: "Les seuls représentants vérifiés et connus de la nation française," which he had also submitted to the Breton Club, or was to submit, before introducing it in the assembly,[5] and for which he gained the vigorous support of that body. But the introduction of this motion led the assembly into a debate over subtleties, over nice distinctions, which could be nothing less than congenial to the character of the Breton deputies who were noted for the clearness with which they were accustomed to express themselves. In their minds,

[1] Boullé wrote on June 10: "Mais on désirait de la faire passer promptement et avant que le Clergé et la Noblesse eussent désemparé, afin de leur faire de suite la sommation de se réunir pour la vérification des pouvoir et de commencer en conséquence dans le jour l'appel des bailliages et sénéchaussées, c'est ce qu'on entreprit et ce qu'on réussit, en effet, à empêcher en entraînant de longues discussions." *Revue de la Révolution*, vol. XII, p. 53.

[2] *Récits*, p. 103.

[3] Boullé, June 10: "L 'impatience même de ceux qui voulaient faire passer la motion, contraria leur objet et les éloignait de leur but; des cris s'élevèrent à plusieurs reprises pour demander les voix, mais ils ne servient qu'à faire perdre près d'une heure dans le tumulte." *Revue de la Révolution*, vol. XII, p. 53.

[4] Ibid., p. 52.

[5] *Exposé de la conduite de M. Mounier*, etc. Paris, 1789, p. 5.

long decided to urge the Third Estate to assume the legislative power of France, if necessary, there could be no need for niceties intended to save legal appearances. On the 16th, Legrande moved to constitute under the name "National Assembly" without seeming to arouse much interest.[1] But he had given the Breton Club the suggestion of a title which corresponded fully to the principles of many of its members, and which was now seized upon to make an end of all the obscurities in which the assembly had been involved for the last two days. The club abandoned entirely the motion it had until now sustained, declared itself with enthusiasm for the name "National Assembly,"[2] and in the evening session of the same day Sieyès introduced the motion which was adopted the following morning, and completed the revolutionary act for which the Breton deputies had in effect fought since the 14th of May.

It is evident, then, that the Breton deputies and the Breton Club had furnished the initiative, the courage, the force which drove the Revolution over its first great crisis, or, perhaps, we may say that they formed the element which forced the formal declaration of the Revolution.

V

DIRECT OPPOSITION TO THE GOVERNMENT—THE "OATH OF THE TENNIS COURT"—THE ROYAL SESSION—THE IMPERATIVE MANDATES—THE JULY REVOLUTION

Bertrand de Moleville assures us that at first the intentions of the Breton deputies was "To do everything

[1] *Point du Jour*, I, No. 1, p. 1.

[2] *Droz, Histoire du règne de Louis* XVI., II, 211, says the motion was received with enthusiasm at the club. Since it was introduced in the evening session, it is to be supposed that the club met between the two sessions of the assembly, for certainly Sieyès would not change his motion without first consulting those who had been his principal allies in the motions of the 10th and the 15th.

for the king, and for reestablishing his authority in such a manner that the Nobility and the parliaments could never injure it."[1] This is in full accord with the sentiments expressed in their correspondence, without exception. But it is necessary to distinguish sharply between

[1] *Mémoires particuliers sur le règne de Louis* XVI., I, p. 44. Extracts in Aulard, I, p. XIII. Both Zinkeisen (I, 66) and Chérest (III, 120) accepted the version of Moleville's account as he gives it in his *Histoire de la Révolution*, in which he says that his interview with the Breton deputies took place during the first days of June. According to his *Mémoires* it was, "Quelques jours après l'ouverture des etats généraux." The latter is the correct account as far as the time of the interview is concerned, for we find in a letter of Poulain de Corbion, deputy of Saint-Brieuc, dated May 11, the following passage: "Comme elles (observations in a previous letter of Champeaux-Palasne) sont le résultat de la conversation que nous avons eue sur l'affaire de Sieur P . . . avec M. de Bertrand, ancien intendant de Bretagne," etc. (*Société d'Emulation*, XXVI, 220.) Since Moleville represents this as his first meeting with the Breton deputies, it could not have been later than May 10, for Champeaux-Palasne had already written to Saint-Brieuc the results of the conversation when Corbion wrote. It is evident, then, that Moleville's memory served him poorly, for he says that the Breton deputies were at this time in doubt as to whom they should elect to the presidency, but thought the Duke of Orleans would be the most agreeable to the king—at a time when there was neither president nor assembly, and when the Duke of Orleans was still in the chamber of the Nobility.

Building upon this confused account Zinkeisen says, "Dies geschah, wie gesagt, in den ersten Tagen des Monats Juni 1789 und war wohl mit die nächste Veranlassung zu einem förmlichen Bruche des Club Breton mit dem Hofe und dem Ministerium." If this conjecture were true, then this formal break with the government, of which we find no trace in the contemporaneous records, would have to be referred to the middle of May. As is shown below, it was not until long after this time that the king and Necker lost their popularity with the Breton deputies, yet it is quite possible that Necker's refusal of the Breton alliance or leadership may have determined the latter to act independently, for the time coincides with the introduction of Le Chapelier's motion of the 14th of May.

Using this same account of Moleville, Chérest has been led, it seems, to an entire misconception of the early position of the Breton deputation and its club. Moderate until the beginning of June, neglected by Necker, the club fell into the hands of the leaders of the revolutionary party, of whom it then became the tool, and was henceforth the violent organization which it has been supposed to have been. This happened when Sieyès introduced his motions of the 10th and the 15th of June. But, says Chérest, "D'abord il s'abstint de lui démasquer toutes ses batteries, de peur d'effaroucher la modération relative de la pluspart de ses membres. Il ne lui parla que de constituer

the king and the court—between the king and the "government." Too frequently, in their minds, the acts of the government were the results of deceit, of intrigues of the ministers, of the court, or of the Nobility.[1] For the latter, their distrust and hatred was as deep-seated and bitter as the persistency with which they clung to their belief in their king was pathetic. Nor did the letter of the king on the 28th of May, the orders of the Royal Session, and the concentration of troops in July cause any essential change in this sentiment.[2] Just what they meant by

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l'assemblée sous le titre d'assemblée des seuls représentants vérifiés et connus." (III, 120, 121.) On the contrary, as has been shown above, Sieyès, so far from being under the necessity of fearing that he would shock the moderation of the members of the club, was merely renewing, under different circumstances, the very demands the Breton deputies had fought for for almost a full month, and that with an intolerance and vigor which had led to the suspicion that they wished to disrupt the States General by the confusion resulting from their violence. Under these circumstances, but little credit of initiative is due to Sieyès, nor is it even certain that his motion of the 10th of June was introduced in the assembly of the Third Estate in the form in which he had originally drawn it, for it was debated at the club for at least two evenings, and it finally entered the assembly as much the motion of the club as that of Sieyès. The same thoughts arise relative to the motions of the 15th and the 16th. To represent Sieyès as the important element in the acts which constituted the National Assembly is to misrepresent the relative value of the forces at work.

[1] This feeling is expressed upon numerous occasions. See especially the letters of the deputies of Saint-Brieuc, of April 28, July 19; of Boullé of June 3, 10, 13, 23, 24, and 28; of Le Roulx, June 5, 21, 23; and of Pellerin, July 10.

[2] Boullé, after the Royal Session, when in the most terrible excitement, could find in his heart no other feeling for the king except that of pity or sympathy for the misfortunes brought upon him by his evil counselors. "L'on est séparé en gémissant sur les maux que pouvait entraîner un coup aussi funeste et sur le malheur d'un bon roi dont on a si cruellement trompé la religion, qu'on l'arme contre son peuple dans le temps qu'il en était adoré." June 23. On the same day: "Ce n'est pas au cœur du roi que tout ceci est imputé; on lui rend encore justice; on n'en veut qu'à ceux qui l'ont trompé. Serait-il possible qu'un seul jour souillât pour jamais toute la gloire de son règne?" On the 26th: "Oh! que les rois sont malheureux! le nôtre allait recevoir les plus grandes preuves de notre amour; sa puissance allait s'accroître et s'affermir et c'est dans ce moment qu'on lui fait prononcer le malheur de la nation."

Le Roulx could write on June 21, after the announcement of the

the "authority" of the king is not clear, but it is certain that they did not mean his absolute authority. When, through the medium of Moleville, they asked to be directed by Necker, they did not intend to surrender to the minister those rights which were now generally recognized as belonging to the nation, and which in their minds included the power of determining the form of the States General.[1] But because they had in this general way evinced a desire to be guided by Necker, this minister has been blamed for not entering into intelligence with them in order to keep them in the channels of moderation in which it is supposed they were at first inclined to move.[2] If, however, we ask in what this moderation consisted, we learn that it was merely good will toward, and a certain degree of faith in Louis XVI. and his popular minister. While the question of the organization of the States General was under discussion, what proposition could Necker have made to a group of men who had from the first distinguished themselves by their intolerance and the uncompromising attitude they assumed toward the privileged orders, advocating action on May 14 as radical as that concluded in the revolutionary resolution of June 17?

These favorable sentiments regarding the king and Necker gave them but little assurance over the steps the government might take relative to the action of the Third

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Royal Session which had created such uneasiness, and after the insult to the dignity of the deputies of the Third Estate in the unceremonious closing of their hall on the 20th: "Qu'il (the king) n'a pour but dans le séance royale que d'en faire modifier quelques expressions que nos adversaires auront présentées sous un mauvais jour"!

[1] See pp. 47, 48.

[2] Zinkeisen (I, 66) says: "Nichts wäre also damals vielleicht leichter gewesen, als den Club Breton zu einem bequemen Werkzeuge des Hofes und der Regierung zu machen, wenn dieses Werkzeug nur in die Hände eines geschickteren Ministers gefallen wäre, als Necker war." See also Chérest, *La chute de l'ancien régime*, III, 120, and the extract from Moleville, in Aulard, I, p. XV.

Estate in constituting itself the National Assembly, for the government remained silent, whereas they felt that the king was still surrounded by the enemies of their order.[1] The fears of a *coup d'état*, which had been so vividly felt at the Breton Club on the evening of the 9th of June, were not allayed by the decisive action which had followed by which they had intended to put themselves in a state of defense. They now seem to have begun to fear that an attempt would be made to drive the assembly asunder by force of arms. To escape from this menace, it seems that the idea arose among the members of the Breton Club to transfer the assembly to Paris where it would be under the protection of the large population entirely favorable to its pretentions.[2] To prevent a proposition to this effect being made to the assembly on June 20, Mounier asserts that he introduced his motion of the *Jeu de Paume*, which pledged the assembly not to separate until it had made a constitution.[3] Mallet du Pan, writing in 1800, states positively that Sieyès, Barnave, and the Breton Club had formed the definite project of transferring the assembly to the capitol, and that they arrived at the Tennis Court intending to take advantage of the circumstances to execute their resolution.[4]

According to the trustworthy Grégoire, it is to the initiative of the Breton Club that the action of the assembly on June 23, in refusing to leave the hall following the command of the king, is to be ascribed. That the announcement of a Royal Session should have created spec-

[1] Boullé, June 26. *Revue de la Révolution*, XIII, p. 73.

[2] Le Roulx on June 21, enumerating the dangers of a royal session, describes the attitude of Paris as "Le noir image d'une capitale en fermentation pour nous."

[3] *Recherches sur les causes qui ont empêché les Français de devenir libre*, 1792, I, p. 296, note.

[4] *Mercure britannique*, V, 19, cited by Aulard, I, pp. XII, XIII.

ulation among its members and an attempt to learn what the dispositions of the government were, was inevitable, but it can not have been until late on the 22d that they received truthful information, for only twelve to fifteen members were present at their meeting that evening, and Le Roulx, to whom the proceedings of the council were partly known, assured his municipality on the same day that nothing would be done against the work so far accomplished by the assembly. The Archbishop of Paris, he said, had indeed misled the king and caused him to take an unfavorable resolution, but Necker had since persuaded him to change his decision. "Instructed of what the court meditated for the next day," says Grégoire, "each article was discussed by all; and all expressed their opinions as to what was to be done. The first resolution was to remain in the hall despite the interdiction of the king. It was agreed that before the opening of the session we would circulate in the groups of our colleagues to announce to them what was about to pass under their eyes and what it was necessary to oppose to it. But, said someone, is the opinion of twelve to fifteen persons able to determine the conduct of twelve hundred deputies? It was answered that the particle *on* has a magical force; we will say: This is what the court will do, and, among the patriots, they (*on*) are agreed upon such measures. *They* signifies four hundred as well as ten.—The expedient succeeded."[1]

The important influence of the Breton deputies and their club in the resolutions of the assembly had in July

[1] *Mémoires*, I, 380. See note 5, p. 36. Using the somewhat obscure account of this session of the club given in the *Mémoires de Condorçet*, Zinkeisen reached a conclusion exactly the contrary of the one given here, that is, that the club decided to prevent a collision with the government and to use its influence the next day to restrain the more violent deputies. The club is, therefore, represented as a moderating element in the assembly!

gained them an enormous reputation. On the 24th, after the charges against the deputation had been dismissed and the credentials of its members declared sufficient, the assembly, contrary to its custom, greeted their reentrance with a burst of applause.[1] Duquesnoy, who in May had held such an unfavorable opinion of them, admitted on August 21 that they were "extremely celebrated," although he added that they were not statesman-like, being too impatient and acting without sufficient diplomacy.[2] Their power in the assembly is evidenced by the elections early in July, which they discussed beforehand,[3] for in the new bureau were Grégoire, Sieyès, and Le Chapelier.[4] In the committees the names of those who frequented their club are strongly represented. On July 7 Bouche, Volney, Lanjuinais, Lepeaux, Petion, Glezen, and one of the Lameths were included in the preparatory committee.[5] Kervélégan, Petion, Grégoire, Corroller-du-Moustoir, and Robespierre, were assigned to the deputation asking for the withdrawal of the troops.[6] On July 24 Sieyès and Le Chapelier were appointed on the committee on the constitution,[7] and on August 3 the latter was elected president of the assembly.

The imperative mandate of which a number of Breton deputies were bearers caused them considerable embarrassment upon several occasions. They consisted in

[1] Le Roulx, July 24, and the *Bulletin de Brest*, I, No. 26.

[2] *Journal*, I, 263.

[3] Writing of this election on July 4, Le Roulx says: "La minorité de la Noblesse et la majorité du Clergé, nous fit redire à l'assemblée de Bretagne, qu'elles avaient pensé que tel et tel seraient les présidents et officiers qui nous conviendraient, mais qu'elles réuniraient leurs suffrages aux nôtres. Nous étions à peu près d'accord dans nos vues: mais vous voyez que les députés de Bretagne se sont acquis une grande considération."

[4] *Procès-verbal*, I, No. 13.

[5] *Procès-verbal*, I, No. 17.

[6] Ibid., No. 19.

[7] *Bulletin de Rennes*, I, No. 35.

clauses forbidding them to consent to any measures prejudicial to the rights and privileges of the province, not fully incorporated in the French State, or to consent to new taxes without reserving the right of Bretagne to sanction them.[1] The deputies at their second meeting at Versailles seemed to have recognized the importance of these instructions and their incompatibility with the nature of an assembly pretending to legislate sovereignly for the entire nation.[2] On June 14, when the powers of Nantes and Rennes were read, a general murmur arose.[3] Dupont de Nemours declared that the bearers of such instructions possessing a veto upon the actions of the assembly could not be admitted as members of it.[4] Le Chapelier was able to postpone the decision of the question by observing that the assembly was at that time not concerned with the nature of their powers but with the regularity of their credentials.[5] Their attitude upon this subject was throughout vacillating and irrational, dictated, it seems, by local spirit and the circumstances of the moment. Although they realized that they could not recognize such instructions, they ignored the letter of the king on June 27 authorizing all bearers of imperative mandates to apply to their constituents for new orders, and refused to allow the question to be decided in the assembly. The motion of Tallyrand on July 6, condemnatory of the imperative mandate, considerably alarmed

[1] These instructions were given especially by the *sénéchaussées* of Rennes, Nantes, Vannes, Dol, Fougères, Dinan, Quimperlé, Carhaix, and Châteaulin. *Procès-verbal*, II, No. 40 bis. Here Guérande is also given, but in the correspondence of Pellerin, published by Bord, the committee and the mayor of Guérande deny that there is anything in the *cahiers* which binds the freedom of its representative to act according to his judgment. pp. 105, 106.

[2] Legendre and Moyot, May 1. MSS. Archives of Brest.

[3] *Bulletin de Brest*, I, No. 11.

[4] *Procès-verbal*, 1, the introductory number, p. 73.

[5] Le Roulx, June 15.

them. Received with enthusiasm and supported by the eloquent Lally-Tollendal and a number of others, it seemed as if it would be adopted,[1] when the deputies of Bretagne began a maneuver to defeat it.[2] On July 7, Legendre and Moyot wrote relative to this motion: "It will not have escaped you how much importance we attach to it with regard to the preservation of the franchises of the province of Bretagne. That article is particularly recommended in the powers of Rennes, Nantes, and Fougères; it is so likewise in the wish and conscience of all the deputies of the province, especially under the present circumstances in which our prelates and nobles affect to reproach us with the desertion of the Breton privileges."[3] Aside from these motives, they were influenced by distrust of Tallyrand whom they did not know at this time,[4] fearing that he concealed under his motion the declaration that the vote by head was not imperative. They therefore prepared an amendment to prevent this consequence should they fail in defeating the motion entirely.[5] Sieyès seems to have acted once more as their spokesman, for on July 7 he moved that the assembly declare that there was no "occasion to deliberate."[6] This was the formula which had already been agreed upon by the deputies of Bretagne,[7] and when Sieyès renewed his

[1] *Point du Jour*, I, No. 18.

[2] *Bulletin de Brest*, I, No. 20. "Comme ce projet d'arrêté pourrait contrarier les priviléges provincaires de Bretagne, on fera des efforts pour faire dire qu'il n'y a lieu à délibérer sur la motion de M. l'Evêque d'Autun."

[3] MSS. in the *Archives de Brest*.

[4] Le Roulx, July 15. "Comme les mandats impératifs étaient générale et l'évêque d'Autun n'était pas connu de l'Assemblée, et surtout de nous, nous avions crains qu'il n'interdit que le vote par tête était impératif."

[5] Le Roulx, July 15.

[6] *Point du Jour*, I, No. 18, pp. 133, 134.

[7] See note 2, above.

motion the next day it passed by an overwhelming majority.[1]

With this method of disposing of the difficulty the conscientious Pellerin was not satisfied. On July 22, he wrote to his municipality stating that the clauses of his instructions forbidding him to consent definitely to any imposts affecting Bretagne or to surrender any of the rights and privileges of his province were inconsistent with the powers of the assembly to legislate for the whole of France. But, as he also wished the preservation of the provincial privileges, he had prepared a resolution asking the assembly to assure to Bretagne these privileges, by which the effect of the imperative mandate would be removed by removing its object. When, however, he asked the deputies of the province to support this measure, some had answered that he ought to submit to the opinion of the majority of the deputation, and since nearly all were without such instructions they did not see the necessity of any declaration. Others had replied that they had asked of the assembly a new constitution and that, hence, they ought not to seek to preserve their own, of which the entire Third Estate of the province complained. Still others had said that they ought not to speak of the reservation of their rights until the close of the assembly. He, therefore, asked that the electors of his *sénéchaussée* be assembled to send him definite instructions as to the course he should pursue.[2]

Undoubtedly the events which had intervened in the two weeks since they had been instrumental in defeating Tallyrand's motion contributed much to cause this change from a local to a national sentiment. At the former period, the Revolution was under the cloud preceding the

[1] *Point du Jour*, I, No. XIX, p. 140, gives the vote 731 to 28.
[2] Letter of July 22, published by Bord.

insurrection of Paris, and it behooved the deputies to hold firmly to the rights guaranteed by time and usage.[1] But when Pellerin wrote, this danger had vanished and France was being transformed by the federative spirit which obliterated boundary lines. On the night of the 4th of August, those of the Breton deputies who found themselves bound by instructions to the contrary, announced through Le Chapelier, then president, their conditional consent to the destruction of the privileges of Bretagne, pending the definite decision of their constituents. Only the Breton curés declared that their instructions did not permit them to make such a surrender.[2]

We have no evidence of any resolution of the Breton

[1] On the night of the 4th of August, according to the *Procès-verbal*, Le Chapelier "a exposé les motifs de prudence qui avaient engagé quelques sénéchaussées . . . à lier en partie les mains de leurs mandataires, jusqu'à ce que le jour du bonheur et de la sécurité, succédant, pour toute la France, à des jours d'attente et d'espoir, les autorisât à confondre les droits antiques et révérés de la Bretagne, dans les droits plus solides encore et plus sacrés, que les lumières de l'Assemblée assuraient en ce moment à l'empire Français tout entier." I, No. 40 bis. In his speech on the chamber of vacation of the parliament of Bretagne in January, 1790, Le Chapelier expresses clearly the motives the province then had for no longer insisting upon its privileges. *Bib. Nat.* Lc29/412–29.

[2] *Procès-verbal*, II, No. 40 bis. As will be seen below in the discussion of the veto, this renunciation by no means destroyed the provincial independence in the minds of the people of Bretagne, for there could still be talk of secession of the province from the rest of France, nor was the question of the imperative mandate here finally set aside. On the contrary, the action of the Breton deputation on the 4th of August was a distinct recognition of the binding character of such mandates in that they announced their inability to renounce the rights of the province definitely. Aside from this, they still recognized themselves as bound by their instructions forbidding them to consent to new taxes before the constitution had been made. The demand of Necker on the 24th of September for a patriotic contribution, therefore, again embarrassed them so that they were fully unable to decide what course to pursue. On that date, Legendre and Moyot wrote: "Aussitôt que nous avons pu prévoir cette difficulté, (prohibition to consent to the tax asked for by Necker) nous nous assemblâmes dans l'un des bureaux après la séance du matin, pour devoir en délibérer en commun et concerter une résolution à transmettre à nos commetans. Plusieurs avis furent proposés sans aucune solution, et le motif de la convocation n'a communiqué qu'un embarras interminé." MSS., *Archives de Brest.*

Club relative to the gathering of troops about Versailles and Paris, but the attitude and fears of the deputies of Bretagne are clearly expressed in their correspondence both before and after the insurrection of Paris.[1] It seemed now as if the Revolution would be forced to abandon its program or to maintain itself by force of arms. To the Breton deputies, the contemplation of such alternatives was not new. The same, in effect, had faced the Third Estate in Bretagne a few months before, according to their belief, with the result that a militia was formed for the protection of the provincial reform movement. In Bretagne, the danger of the use of force against the estates had always been so keenly felt that the liberties of the assembly were deemed menaced if troops were brought within ten leagues of its meeting place.[2] In the *cahiers* of Rennes, the crisis of July had been foreseen as a possibility, for in article 51 it is declared that "The troops belong to the nation, so that they can not, without rendering themselves guilty of rebellion, favor the violation of the constitution or the national laws, and particularly the encroachment upon the liberties of the assemblies of the States General and of the provinces, in preventing their formation, assembling, or in effecting their dispersion.[3]

Three prominent members of the Breton Club, Sieyès, Le Chapelier, and Grégoire seconded Mirabeau's motion of July 8 asking the king for the withdrawal of the troops.[4] Numerous passages in the letters of the deputies show that they would as individuals not have hesitated

[1] See the letters of Boullé, June 24, 26, 28, July 7, and of Le Roulx, July 11 and 17.

[2] *Point du Jour*, I, No. XIX, p. 143. Remarks of Sieyès on the motion of Mirabeau for the withdrawal of the troops.

[3] *Archives Nationales* B^{A}26, liasse 170bis.

[4] *Point du Jour*, I, No. XIX, pp. 143, 144.

to persuade the troops to disobey all orders directed against the liberties of the assembly, but that the Breton Club as an organization undertook such a step, as Montjoie declares,[1] there is no evidence to show and is in itself, because of the nature of its organization, extremely improbable, if not entirely impossible.[2] Boullé in a letter of June 28 expresses his hearty approval of the disobedience of the guards at Paris, and when some members in the assembly wished to have them punished, he accused the latter of the design of discrediting the assembly.[3] He even mentions an attempt to bribe some of the troops at Paris by a promise of an addition of two sous a day in their pay.[4] Le Roulx, in conversation with members of a German regiment at Versailles, learned with evident disappointment that these soldiers felt it their duty to obey should they be commanded to act against the assembly.[5] Legendre, who must be considered as a moderate member of the Breton deputation, recognized with gratitude the disaffection of the troops during the insurrection of July 13 and 14.[6]

VI

OPPOSITION TO REACTIONARY TENDENCIES—THE BRETON DEPUTIES AND THE NOBILITY—THE "FOURTH OF AUGUST" DECREES

The rising of Paris, the withdrawal of the troops, the recall of Necker, and the apparent surrender of the king to the lead of the National Assembly filled the deputies

[1] See extracts in Aulard, I, p. XI.

[2] See pp. 33–35.

[3] Letter of July 1. *Revue de la Révolution*, vol. XIV, p. 43.

[4] Ibid., Letter of June 28, pp. 26–31.

[5] Letter of July 17.

[6] Letter of July 15.

of Bretagne with better hopes than they had as yet held. The people were in power; the "Cabal," disheartened, was driven from the councils of the king, with whom, as they believed, they could now proceed to the important work of making a constitution.[1] But the more conservative deputies did not view the general disintegration with the same calmness. Alarmed by the disorders which followed the insurrection of Paris, the assembly began to feel the necessity of repressive measures, or at least of calling the attention of the people to the necessity of the reestablishment of order. Against this tendency the Breton element now directed its efforts. On July 20 Lally-Tollendal proposed an address in which, after stating the situation of the assembly, the dangers of disorders, he invited the people to peace, respect for the laws, confidence in their representatives, and fidelity to their sovereign, and declared that whoever failed in these points should be regarded as a bad citizen. He wished at the same time to authorize the municipalities to organize militia.[2] This motion the Breton deputies thought too reactionary. Fermont des

[1] The deputies of Saint-Brieuc wrote on July 19: "La cabale aristocrate . . . est absolument culbuté. La nation triomphe, et nous sommes actuellement certains de former une constitution qui portera sur des fondements inébranlables. On assure que madame, soeur du roi, et mesdames tantes de Sa Majesté, qui étaient les âmes de ce complot abominable qui a pensé perdre la France, sont parties et retirées dans un couvent. Toute la clique Polignac a quitté la cour, et le roi n'est, quant à présent, entouré que d'honnêtes gens. . . . On pense que les ministres renvoyés ne seront remplacés que sur l'indication qui en sera faite par le Restaurateur de la France." *Société d'Emulation*, XXVI, p. 238.

This same feeling of relief from the previous heavy strain was expressed by Glezen on July 24 in addressing the assembly in behalf of the deputation of Bretagne: "Agités tour-à-tour par l'espoir et la crainte, nous l'eussions attendue (the decision of the assembly on the validity of the deputation) avec plus d'ardeur encore et de solicitude. Vous n'avez plus, Messieurs, de dangers à courir; votre patriotisme, votre courage les ont dissipés. Vous avez triomphé, par une constance inébranlable, de tous les obstacles qui s'opposaient au bien public. La constitution est censée faite." *Procès-verbal*, II, No. 31.

[2] *Point du Jour*, I, No. XXVIII, p. 240. *Courrier de Provence*, I, pp. 450, 451.

Chapelières of Rennes assured the assembly that Bretagne was in the most perfect tranquillity; that there was no necessity for sending a proclamation there, and that the one proposed contained expressions more calculated to cause an uprising of the people than to produce the opposite effect. Glezen, also of Rennes, likewise asked why they should speak of disorders to provinces which enjoyed perfect peace, and how could they censure men who had taken up arms in defense of liberty? Delaville Le Roulx wished the middle class to form a militia, but rejected the rest of the motion of Lally-Tollendal. Robespierre, member of the Breton Club, said: "It (the address) presents in the first place a disposition against those who have defended liberty. But is there anything more legitimate than to rise against a horrible conspiracy for the destruction of the nation? . . . Let us do nothing with precipitation; who has told us that the enemies of the state have tired of intrigue?"[1]

Tabled on the 20th, the motion, much softened in expression, was renewed by Lally-Tollendal on the 23d, and sent to the committee of redaction. As finally passed, the provision for a militia was omitted and the assembly, instead of assuming a commanding tone and vigorously condemning the disorders, weakly stated the evil effects of lawlessness.[2]

At the same time that the deputies of Bretagne showed themselves unwilling to see checked the fury everywhere directed against the Ancient Régime, an opportunity presented itself for reconciliation with the more moderate portion of the Nobility of their province. The electoral assembly of that order had been a stormy one, in which the voices of the moderate members had been drowned

[1] *Point du Jour*, I, No. XXVIII, pp. 241–243.

[2] *Point du Jour*, I, No. XXXII, pp. 275–277, No. XXXIV, pp. 304–306.

by the clamor of the violent. The refusal to elect deputies had been against the advice of a large number and had never been permitted to come to a discussion or even to a formal vote, a noisy manifestation having been taken as the expression of the will of the assembly.[1] There were, therefore, many who regretted that their order was not represented in the National Assembly, and who began in July to make an effort to obtain representation. For once the deputies of Bretagne showed themselves willing to go farther than even the assembly to meet the advances of those who had been their bitterest enemies. On July 24, when the question of the validity of their deputation came before the assembly, Le Chapelier, in answering a question regarding the desirability of inviting the Nobility to elect its deputies, said that in reality both the upper Clergy and the Nobility had exercised the full right conferred by the election regulations in refusing to elect, but in order to open the door to reconciliation the deputies of the Third Estate of Bretagne joined in the invitation in question. The assembly, however, merely declared the right of the Nobility to elect without adding the invitation, which did not satisfy the order.[2] After some isolated efforts had been made in the province,[3] a certain Scott appeared at the Breton Committee during the first week in September and asked in the name of the Nobility that the deputies of Bretagne support in the National Assembly a resolution annulling the oath[4] of his order and

[1] Letter of the Bishop of Rennes, April 18. *Archives Nationales.* BA25. MS.

[2] *Bulletin de Rennes*, I, No. 36, supra.

[3] *Bulletin de Brest*, I, Nos. 30 and 32.

[4] Oath to consent to no change in the constitution of the province, or to participate in any assembly or administration by which the provincial estates were replaced. It was taken in a dramatic scene in the assembly at Rennes the 8th of January preceding. Pocquet, *Les origines de la Révolution en Bretagne*, II, 188–189.

inviting it to elect, by bishoprics, the number of deputies to which it was entitled. But by this time, the sentiments of the Breton deputies had been affected by many rumors and fears of intrigue and counter-revolution in which they suspected their own Nobility to be involved. "The affair of the 26th and 27th,"[1] writes Le Roulx, "the oath, the resumé of facts in which the bourgeois youth were accused of having presented themselves with breastplates,[2] all these circumstances were recalled as so many injuries for which justice was exacted, and the Breton Committee, judging from what is passing about us by the zeal of the envoy of the Breton Nobility, is not without uneasiness concerning several new projects. They are not able to conceive that the Nobility has not some secret motives, some *arrière pensée*, to devote themselves to the absolute veto, or the system of two chambers." Their answer therefore was that the proposed step was beneath the dignity of the National Assembly which had assigned to the Breton Nobility its place in the hall. Let them occupy it. The Breton deputies would not make opposition.[3]

An incident which greatly aroused the apprehensions of the deputies of Bretagne was the so-called "Conspiracy of Brest." On July 24 the ministers of marine and foreign affairs informed them that the English were arming in French ports; that they had searched several French vessels and entered into communication with the internal

[1] See p. 19.

[2] This was a charge made in a *mémoire* drawn up by the Clergy and the Nobility after the January riot, and which became accepted as the sense of both the privileged orders. *Bib. Nat.* Lb39/6900. It was a charge which, by its double meaning, particularly incensed the Third Estate.

[3] Le Roulx. An undated letter (No. 58 in the register) but probably the 4th or 5th of September, since he seems to refer to Mounier's report on the constitution of the legislative body and on the same evening that the address of Rennes on the veto was discussed in the Breton Committee.

enemies of France with the object of burning the ports of Brest and Lorient.[1] This gave rise to various conjectures, with the feeling that the Nobility was involved in the conspiracy and that perhaps this was only a local manifestation of a general plot against France—that is, against the Revolution. At the receipt of this communication, the Breton deputation met and, at the advice of the ministers, sent a common letter to the municipality of Brest exhorting it to assemble its militia and "jeunes gens" and unite with the regular troops in the port of Brest, "to watch the mouth of the port and repulse the enemy of the state."[2] At the same time they resolved that each deputy should write to his constituents asking that the "jeunes gens" should hold themselves in readiness for immediate service.[3]

An episode of this nature could only strengthen the feeling of the Breton deputies that the assembly could not yet with safety frighten the people from their attack upon all that seemed still to stand in contradiction or in opposition to the Revolution. The primary motive for resisting repressive measures had been expressed by Robespierre on July 20 in the words: "Who has told us that the enemies of the state have tired of intrigue?" Now, as if to justify the distrust contained in these words, a conspiracy involving open violence and treason was announced to be charged to "the enemies of state." When, therefore, the committee on reports on August 3, after

[1] Letter of the deputies of Saint-Brieuc, July 25. *Société d'Emulation*, XXVI, 242.

[2] Ibid., and the letters of Legendre and Moyot, August 12, of Le Roulx, July 25 and 26. Also *Archives de la ville de Brest* covering this period, and the collection of documents in the library of Brest, No. 2.334, containing, among other information upon this affair, a manuscript letter of the Breton deputies sent to Brest upon this occasion, signed by twenty-two deputies, nearly all in the same hand.

[3] Letter of the deputies of Saint-Brieuc, July 25.

revealing the frightful state of anarchy existing in France, proposed a proclamation which in its contents and expressions was distinctly condemnatory of the various disorders,[1] the Breton deputies were no more inclined to acquiesce in this measure than they had been in the resolution of Lally-Tollendal two weeks earlier. But this time they found themselves in the minority, and while the proclamation was in the hands of the committee of redaction they prepared in their club the means of counteracting what they thought the evil effect which would be produced by the proposed action. "At the assembly of yesterday," wrote Corroller du Moustoir, deputy of Hennebont, "it was decided that a proclamation should be made intended to arrest the pillage in the country districts, the burning of villages and castles in the provinces, the proscriptions of the lords and nobles. It was pretended that this was the work of brigands. The commons were persuaded that it was the effect of the desire for liberty. They did not cease to say: this decree had been against their opinion and it was of a nature to inflame rather than to calm. There is a limit to slavery and tyranny; the moment for throwing off both had arrived; we were convinced of these truths. Several very rich *seigneurs* of our assembly, whom we had convinced that, in order that this proclamation might produce its effect, it was necessary that it be preceded, on the part of the privileged orders, by a complete abandonment of their pecuniary exemptions, were prepared to follow us. We awaited the reading of the draft of this proclamation, which was to be made in this session, ready to cause it to fail, if this preliminary were omitted."[2]

[1] *Procès-verbal*, II, No. 40 bis. *Point du Jour*, II, No. LIII, p. 18, No. LIV, 26–28.

[2] Extract published by Kerviler, *Recherches et notices*, art. *Corroller du Moustoir*.

The renunciations here referred to were those of the evening of August 4. They had been discussed at the Breton Club, the members of which had pledged themselves to support the motion, or motions, in which they were to be proposed to the assembly.[1] It is not certain how far the details had been arranged, but it seems that the leading parts had been assigned before the opening of the session, for the Duke d'Antraigues, who was to move the surrender of the privileges of his province, declared that it was a "comedy prepared in advance."[2] Aside from the intrinsic importance of the acts of the 4th of August, they are significant as being expressly the result of an unwillingness on the part of the Breton element to allow the assembly to pronounce itself firmly against violence. The proclamation was to be permitted to pass only under cover of an act so far overshadowing it as to cause it to be lost sight of—an attempt to appease rather than to control by law. This maneuver of the Breton Club marks the beginning of the policy—refusal to blame or punish violence once committed—later followed with such fatal effects by its successors, the Jacobins.

[1] *Bulletin de Rennes*, No. 41, foot-note: "Cette motion avait été délibéré au comité de la province de Bretagne, et les députés s'étaient engagés à l'appuyer." This refers to the motion of Noailles. Droz, II, 404, ascribes the initiative to the Duke d'Aiguillon, as also does Alexandre Lameth, *Histoire de l'Assemblée constituante*, I, 96-97; and the deputies of Languedoc wrote on the 4th of August that Noailles had deprived d'Aiguillon of an honor which belonged to the latter by the fact that he had prepared the motion and was to introduce it. Bord; *Correspondance inédite de J. M. Pellerin*, p. 109. On the other hand, we find in a letter of Legendre and Moyot of August 5 the following equivocal passage: "Le Vicomte de Noailles *devait* remplir le debut et nous étions tous préparés."

[2] Léon Pignaud, *Un agent secret sous la Révolution et l'Empire, le Comte d'Antraigues*, p. 70.

VII

THE VETO—DISUNION AND WEAKNESS—END OF THE BRETON CLUB

As long as the assembly had stood in danger of a defective organization or overthrow by force, the Breton deputies had won the admiration of a large number of their colleagues by the extraordinary unity of their action and the definiteness with which they expressed themselves. But when the power of the Ancient Régime seemed finally destroyed by the July revolution and the remaining abuses of the feudal system declared abolished by the decrees of the 4th of August, and positive legislation began, disunity became apparent almost at once. With the discussion on the declaration of rights the members of the National Assembly began to separate into parties, a process which did not leave either the Breton Club or the Breton deputation uninfluenced. Mounier had long ceased to be in sympathy with the club. On August 3, Duquesnoy wrote that Le Chapelier was moderate in his views, being in this way distinguished from the rest of the Breton deputies whom he believed very extreme, and that he had been opposed in his election by his colleagues of the province who were jealous of his reputation.[1] But it was the

[1] *Journal*, I, 263. Duquesnoy was certainly in error if he supposed that the entire Breton deputation opposed Le Chapelier. Upon his election the deputies of Nantes wrote: "La nomination de M. Le Chapelier à la présidence a causé une véritable satisfaction. Cet avocat breton dont le nom sera celèbre dans l'histoire de notre Révolution, s'est distingué jusqu'à présent par un amour pour la liberté, par une fermeté inébranlable, par une très grande justesse dans les vues, et par une modestie rare encore." Kerviler, *Recherches et notices*, art. *Le Chapelier*.

It does not seem, however, that either the Breton deputation or the Breton Club had taken any preliminary resolution for the election, nor that there was any unity among them during the first ballots, for in that case Sieyès, Glezen, Le Chapelier, all members of the club, would not have permitted their candidatures at the same time, since

discussion over the veto which first brought about a violent division in the deputation. The close union and communication which had existed between the deputies and their constituents had until now been of undoubted value to both parties, but proved in the end disastrous. The reaction following the enthusiasm of the 4th of August greatly disquieted many of the Breton deputies, who felt that the veto might be employed to annul the recent decrees.[1] Under the veto was thus hidden the reaction. Similar fears existed in Bretagne where Rennes on September 2 adopted an address to the assembly which it asked its deputies to present. In this, after the current view that to the nation belongs the legislative, to the king merely the executive power, and that the two must be kept in separate hands, had been expressed, they "declare enemy to the country whoever dares to infringe the legislative power." "They are surprised that anyone dared to submit to deliberation and regard as problematical the question as to whether the decrees of the National Assembly require the royal sanction in order to possess the force of law."[2] Unfortunately for all concerned, the deputies of Rennes elected to allow themselves to be dictated to by a single city rather than obey their *cahiers*.[3] They read

this could only bring defeat to their element as a whole. *Bulletin de Brest*, I, No. 34.

After the resignation of Thouret was known, some of the Breton deputies at least, began to work for the election of Le Chapelier, for Legendre and Moyot wrote on August 5: "Alors nous avons pris les mesures pour élever à la présidence M. Le Chapelier qui n'avait eu que 113 voix au scrutin de samedi. Nous avons parfaitement réussi le lundy." MSS., Archives of Brest.

[1] Such fears are expressed by various members of the deputation. See *Extraits d'une lettre d'un député de la sénéchaussée de Rennes*, *Bulletin de Rennes*, II, No. 3. The letters of the deputies of Saint-Brieuc of August 31 and September 1, and the letter of the deputation of Rennes August 31, *Bulletin de Rennes*, II, No. 1.

[2] Text incorporated in the resolution of Brest published in the *Bulletin de Brest*, I, No. 42.

[3] Their *cahiers* favored a suspensive veto.

the insulting address to the assembled deputation of the province and asked that it be supported in the National Assembly.[1] When nearly the entire deputation refused, their conduct became such as to greatly wound some of their colleagues. The deputies of Quimper wrote to their municipality: "They (the deputies of Rennes) wish nothing less than to force us to subscribe to their decree, in order to print it, and to prove that they have, and are made to exercise a sovereign empire over the minds of all the Breton deputies; we avow that we have been greatly displeased with the proposition of the Rennois. We have even refused any kind of adhesion to their decree."[2] The opposition was not so much to the principles advocated as to the insult to the assembly, contained in the declaration that all those who held views on the veto contrary to those expressed in the address were enemies of the country.[3] The deputies of Rennes, being denied the opportunity of laying the address before the assembly,[4] made everyone acquainted with its contents by promptly printing it.[5] But the deputy of Dinan, whose municipality had adhered to the address, placed upon the bureau a copy of it which was then read, maliciously, Legendre said, to the assembly.[6] It was greeted with loud murmurs of disapprobation.[7] Garat, Maury, Foucault at-

[1] *Bulletin de Rennes*, II, No. 3. Letter signed by Le Chapelier, Glezen, Lanjuinais, and De Fermon.

[2] *Journal d'etat et du citoyen*, I, No. 7.

[3] Letter of Legendre and Moyot, No. 51, undated, but its contents show that it was written on the day the assembly discussed the address of Rennes, that is, the 10th of September. MSS., Archives of Brest.

[4] The attempt was made by Glezen on September 5. *Bulletin de Rennes*, Nos. 4 and 5, vol. II. *Procès-verbal*, IV, No. 68, p. 1.

[5] *Bulletin de Rennes*, II, No. 5.

[6] Letter of Legendre and Moyot, No. 51.

[7] Ibid.: "Les secrétaires dans la mention qu'ils en ont faite aujourd'hui, ont par méchanceté annoncé que cet arrêté violait sans

tacked it vigorously. Mirabeau declared it absurd, observing that Melun, Geroflay, Corbeil, and Point-du-Jour could circulate like absurdities if the right were granted to Rennes. He added ironically: "The National Assembly has no time to institute itself professor of the municipalities which advance false maxims; it should address itself to the wisdom of the excellent Breton deputies to cause the right principles to circulate in their country."[1] Le Chapelier demanded that Mirabeau be called to order for speaking disrespectfully of the deputies of a province, but his demand was refused. Maury then asked that the address be returned to Rennes with the assembly's expression of disapprobation.[2] The humiliation of the deputies of Rennes was extreme.[3] Le Chapelier, who personally did not approve of the address, undertook its defense, maintaining that the assembly had heard the same principles expressed by no less a personage than Sieyès. The dignity of the assembly was above injury, he said. The substance of the address being alone of consequence, no attention ought to be given to the manner of expression. But the assembly refused to listen to his arguments. Finally the deputy of Dinan expressed his regret at having laid the address upon the bureau and made the humiliating request that he be permitted to withdraw it. In spite of Le Chapelier's objection that the deputy of Dinan did not have the right to withdraw an address once pre-

mesure le respect dû à la dignité et à la liberté de l'assemblée. On en a demandé la lecture, qui a causé la plus grande émotion dans l'assemblée dont le vœu s'est déclaré pour un décret d'improbation vigoreuse contre l'arrêté dans lequel cependant on avait substitué le mot ennemis au mot traîtres. La flétrissure de cet arrêté, provoquée par une multitude de voix, aurait assurement été décernée, si l'Assemblée n'avait été arrêté par une considération particulière pour tous les députés de Bretagne."

[1] *Courrier de Provence*, III, p. 10. *Bulletin de Rennes*, II, No. 6, supra.

[2] *Point du Jour*, II, No. LXXVI, pp. 342–344.

[3] Letter of Legendre and Moyot, No. 51.

sented, the assembly chose this way out of the difficulty.[1]

The address, after dividing the deputation itself, had furnished to its enemies in the assembly the occasion for a malicious attack which could not fail to injure its influence at this critical period with those who were still undecided in their attitude. Equally damaging was its effect upon the hitherto ideal relation existing between the deputies and their constituents. Many municipalities adhered to the address,[2] and since nearly all the deputies were opposed to it, they stood in formal opposition to the municipalities which they had until now recognized, in effect, as their constituents. The complaint of the deputies of Quimper against those of Rennes provoked in the former city a violent attack upon its own representatives; ending in a proposition to approve the conduct of Rennes and disavow all the future acts of their own deputies.[3] Legendre and Moyot, when they received the adhesion of Brest, replied in a letter full of indignation, but in which they made many sensible observations recalling to their city its true position and that of the National Assembly. The address, they said, interfered directly with the liberty of debate. The adhesion of Brest had reached them too late to be presented before the vote on the veto had been taken, but even had it arrived in time they would have been too considerate of the honor of their municipality to compromise it in exposing its resolution to the disapprobation of the National Assembly. "Perhaps you will agree, gentlemen, that you have not accorded this consequence (interference with the liberty of debate) all the attention it merits; perhaps you have not remarked

[1] Letter of Legendre and Moyot, No. 51. MSS., *Archives de Brest. Bulletin de Rennes*, II; No. 6, supra.

[2] See the lists of the cities adhering, in the *Bulletin de Rennes*, II, Nos. 7, 8, 9, 11, and 12.

[3] *Journal d'etat et du citoyen*, I, No. 7.

that it does not pertain to the municipalities of Bretagne to express the views of the *Sénéchaussée,* which have not concurred in the adhesion, and that it pertains still less to their authority to drag after it the suffrages of all the other provinces of the kingdom which respects in silence the freedom of opinion in its representatives. . . . You have subjected our devotion to a test too severe in charging us with the commission of presenting to the assembly the two decrees of the 2d and 6th (?)[1] of September. We were not able to charge ourselves with that commission without betraying the confidence with which you have honored us, without departing from your intentions which, without doubt, were to concur in the formation of a National Assembly, free, respectable, and respected. It would cease to have these august characters if it were reproached in advance with *daring* to abandon itself to questions hostile to French liberties, and of a nature to degrade the eminent powers confided to it, when it is menaced in advance with the arming against it of the people of whom it is the worthy representative, when, in order to obstruct the liberty of its decrees, it is denounced in advance as the enemy of the country, accused of infamy and treason." In a postscript, they added: "We will not permit ourselves to give advice to the province, but we shall here make a reflection; and we say that if the decree of the 2d is such as it is known, and the adhesions which it has obtained are the general views of all the Bretons, as several of our correspondences say, there remains no other course for Bretagne than to revoke all its deputations, assemble its estates, and there determine the Breton constitution. We will not dare to extend our regards over the future which such a separation would

[1] Should be the 7th.

prepare, but it is the frightful perspective offered by the consequences of such a movement."[1]

With the address, or about the same time, the municipality of Rennes wrote to its deputies a letter of which we have not the text, but in which it expressed in severe terms its dissatisfaction with its representatives. "It (the deputation of Rennes) has received from the municipality of Rennes the most incredible marks of ingratitude and dissatisfaction," wrote Legendre and Moyot. "M. Le Chapelier, especially, is so abused that if his mission were not so far advanced he would already have sent his resignation, and it is reasonable that his co-deputies would follow his example, for the injustice and calumny are carried to the last extreme."[2] On September 12, Le Chapelier answered in a letter to the citizens of Rennes in which he outlines clearly and firmly his position on the veto and in which he makes some significant statements regarding his general attitude. The suspensive veto, he said, was not granted out of consideration for the king, but because the nation required some means by which it would be enabled to reverse the decision of its representatives should this be found necessary. He had prepared to defend the suspensive veto in the assembly by a written speech, but before an opportunity of reading it presented itself the address of Rennes had arrived. He did not think that in this a clear distinction was made between the representatives and the represented, but he believed it his duty to defend the principles contained in it, and had therefore done so. He pronounced the opinion of Rennes and voted against the veto of whatever nature it might be; and this despite his *cahiers* which favored a suspensive veto. But

[1] Letter of Legendre and Moyot, September 13, MSS., *Archives de Brest.*

[2] Letter of Legendre and Moyot, September 13.

since opinion had advanced greatly during the last five months, he did not feel himself bound by his *cahiers*, except in so far as they were imperative. The suspensive veto had been adopted, but there was no reason for alarm, for it would harm nothing. Moreover, he hoped that a convention would be called to occupy itself exclusively with the constitution, and it might change this article if it were thought necessary. He closed his letter with a warning significant and prophetic. "But in this moment," he wrote, "permit me to say that quiet is indispensable. The nation can not exist long in the midst of storms. It is not enough to have conquered liberty, it must be preserved; and if an insurrection was necessary to make that conquest, tranquillity, cold reason alone can consolidate it. . . . But consider of what supreme interest it is that the National Assembly should be the rallying point of all the provinces, that the constitution, such as it is, should at least be approved; the people tire of agitation, and after having spent their most courageous energy to repossess themselves of their rights, they will abandon them again if they must defend them too long." His closing sentence shows how deeply he had been wounded by the reproaches of his municipality. "I dare to believe that you will not permit that I be further calumniated in the midst of you, and that whatever be the efforts of my enemies they will never succeed in making the *defense of the popular cause*, to which I have consecrated my existence, *distasteful to me.*"[1]

Le Chapelier, then, had stood before the assembly in a false light. Instead of still belonging to the radical few still advancing recklessly, he had become alarmed at the

[1] *Lettre adressée à messieurs les citoyens de la ville de Rennes, par M. le Chapelier . . . Versailles, ce 12 Septembre 1789. Bib. Nat.* Lb39/7816. The italics are mine.

uncontrolled movement of the people which he himself had been the first to invite at a time when the Third Estate needed this force to gain possession of power, and instead of continuing the Breton policy of urging vigilance and the expression of opinion in order to influence the assembly, both he and Legendre and Moyot now urged moderation, asking that the assembly be permitted undisturbed to complete its work. How strongly this advice was called for, the facility with which a large number of municipalities of Bretagne had adopted such a violent address as that of Rennes is evidence. But in the deputation itself, the discussion over the veto had brought confusion and caused the deputies to lose their equilibrium so far as to consider the advisability of withdrawing from the assembly in case the absolute veto passed.[1]

In the assembly, the Breton deputies did not reach a compromise upon the veto. When the question came to the vote, the deputies of Rennes, who were probably followed by a number of others, opposed any veto whatsoever, while the rest voted for a suspensive one.[2] As to its duration, they all voted that it should cease after the first legislature,[3] being therefore, upon the whole, de-

[1] Le Roulx wrote on September 11: "Je n'aurait point quitté l'assemblée, que de concert avec les autres députés de Bretagne. Car nous voulons sincèrement le bien général et n'avons pas comme toute la province, de plus grand intérêt, mais si le vœu de nos commettans eut été éludé par la majorité, qui eut adopté le *veto absolu*, alors, il ne nous restait plus en nous retirant, après avoir encore pris votre avis, qu'à gémir sur le malheur de la patrie." In an undated letter (from its contents probably the 5th or 6th of September) No. 59 in the register, he says: "Cependant je crois qu'il a percé dans l'assemblée que si le veto absolu passait, la Bretagne rappelerait ses députés." Compare with the *Bulletin de Rennes*, II, No. 4, p. 45.

[2] Letter of Hardy de la Largère, September 21, to the committee at Vitré, *Archives d'Ille et Vilaine*. The letter is in manuscript and unsigned, but clearly from Largère since the writer was mayor of Vitré at a time when that office was held by Largère. "Toute la sénéchaussée fut pour cet avis (the rejection of the veto entirely), les autres Bretons furent divisés, beaucoup se séparent de nous."

[3] Boullé, September 22.

feated, since the assembly decided to extend it over two legislatures.

It is probable that this period saw the final dissolution of the Breton Club. We have seen that previous to September 18, it had been suspended.[1] Are we not to infer that the disunion among the Breton deputies was the cause of it? Aroused as their feelings were during the first half of September, the friendly comparison of opinions would seem to have been impossible. If such was indeed the motive of the suspension, the dangers to which the popular cause was exposed caused them once more to attempt to rally about themselves those whom they considered the defenders of the right principles, as they had done during previous crises.[2] Continually they saw themselves in the minority. The popular cause was being deserted by those who should be its defenders, they thought. Rumors of counter-revolution and the attitude of the Clergy and the Nobility in the assembly caused them the greatest uneasiness.[3] But this time the cry of rally seems to have failed, for on October 8 their meetings ceased entirely for some time.[4] The last trace we have of the club is on September 21, and we are not certain even then that the reference is not to the smaller assembly composed exclusively of deputies of Bretagne.[5] It seems even that the hall they had rented for their meetings was now given up, for on September 23[6] and October 8[7] we find the Bre-

[1] p. 34.

[2] Le Roulx, September 18: "Leur salle est de nouveau ouverte à tous les députés quelconques, et ils espèrent sauver, par cette conduite, qui est la même qu'ils ont tenue avant et après le 17 Juin," etc.

[3] Ibid. Also letter of September 22.

[4] Legendre and Moyot, October 9: "La Chambre de province qui ne tient plus, s'assembla hier dans l'un des bureaux."

[5] Le Roulx, September 22.

[6] Legendre and Moyot, September 24: "Nous assemblâmes hier dans l'un des bureaux."

[7] Note 4, above.

ton Committee assembled in a bureau of the assembly. But whether or not the club did in fact cease to exist toward the close of September, its great rôle as a nucleus in the assembly, giving definiteness and decision to its action, was finished, its last great known act being the two famous decrees of August 4. As a strictly provincial body, the Breton Committee continued to exist probably until the close of the assembly,[1] and from November, 1789, to the middle of March, 1790, was very actively occupied with the division of the province into departments and districts, the continuation of the taxes in Bretagne, and the question of the treatment of the chamber of vacation of the parliament of Bretagne.[2]

The events of the 5th and 6th of October made a profound impression upon the deputies of Bretagne. If, as Mounier asserts, they had in June wished to transport the National Assembly to Paris to place it under the protection of the people, these events had caused a change in their attitude showing that they had now begun to fear Paris. In the same letter in which Legendre and Moyot despair of the safety of France unless the assembly were freed from the influence of the mob, they announce that in a meeting of the deputies of the province two-thirds had been against the transference of the assembly to Paris, and that a resolution had been introduced to oppose it; "but," they say, "they ended by taking counsel from circumstances and from the necessity of advancing as far as possible the welfare of France."[3]

[1] In a letter of Kervélégan, November 15, 1790, it is represented as asking the "Commissaires de la salle" to assign one of the tribunes to Freron, of the *Orateur du Peuple*. *Archives Nationales*, carton *AA*.

[2] For this period, the evidence concerning the Breton Committee is more complete than for the whole preceding period. *Bulletin de Brest*, *Bulletin de Rennes*, but especially the letters of Legendre and Moyot and of Le Roulx.

[3] Legendre and Moyot, October 9. See also Le Roulx's letter of the same date.

APPENDIX

Following is the list of the deputies of Bretagne as given by F. A. Aulard in *La Société des Jacobins,* I, pp. V–VIII. For detailed information concerning the individual deputies consult Kerviler, *Recherches et notices.*

CLERGY

Bishopric of Dol

Symon, recteur de la Boussac.
Garnier, recteur de Notre-Dame-de-Dol.

Bishopric of Nantes

Moyon, recteur de Saint-André-des-Éaux. (Resigned in August, 1789.)
Chevallier, recteur de Saint-Lumine-de-Coutais. (Resigned as above.)
Maisonneuve, recteur de Saint-Etienne-de-Montluc. (As above.)
Binot, principal du collège d'Ancenis. (Elected September 25, 1789.)
Latyl, oratorien. (Elected at the same date.)
Méchin, recteur de Brains, près Mâchecoul. (As above.)

Bishopric of Quimper

De Lessègues de Rosaven, prieur-recteur de Plogonnec.
Guino, recteur d'Elliant.
Loëdon de Keramon, recteur de Gourin. (Replaced Hervé, at once resigned.)

Bishopric of Rennes

Guillou, recteur de Martigné-Ferchaud. (Resigned August, 1789.)

Vanneau, recteur d'Orgères.

Hunault, recteur de Billé et doyen de Fougères. (Resigned in August.)

Dubourg-Lancelot, recteur de Rétiers. (Elected in September, 1789.)

Querec de Lacoste, recteur de Saint-Jean-de-Rennes. (As above.)

Bishopric of Saint-Brieuc

Ruello, recteur de Loudéac.

Hingant, recteur d'Andel.

Bishopric of Saint-Malo

Rathier, recteur de Broons.

Allain, recteur de Notre-Dame-de-Josselin.

Bishopric of Saint-Paul-de-Léon.

Expilly, recteur de Saint-Martin-de-Morlaix.

Dom Verguet, prieur de l'abbaye royale du Relec.

Bishopric of Tréguier

Lucas, recteur de Minihy-Tréguier.

Delaunay, prémontré de Beauport, prieur de Plouagat.

Bishopric of Vannes

Gabriel, recteur de Questembert.

Guégan, recteur de Pontivy.

Loaisel, recteur de Redon. (Resigned in August, 1789.)

Le Breton, prieur des Bénédictins de Redon. (Replaced Loaisel in September, 1789.)

THIRD ESTATE

Sénéchaussée of Brest

Legendre (Laurents-François), avocat at Brest.

Moyot, merchant at Lanildut.

Sénéchaussée of Carhaix, Châteaulin, Quimperlé, and others

Le Golias de Rosgrave, avocat at Châteaulin.

Billette de Villeroche, merchant and former mayor of Quimperlé.

Sénéchaussée of Dinan

Coupard, avocat.

Gagon du Chesnay, avocat and mayor of Dinan.

Sénéchaussée of Fougères, Saint-Aubin, and Hédé

Fournier de la Pommeraye, procureur du roi of Sénéchaussée of Fougères.

Lemoine de la Giraudais, avocat and mayor of Fougères.

Sénéchaussée of Hennebont

Delaville Le Roulx, merchant at Lorient.

Corroller du Moustoir, procureur du roi at Hennebont.

Le Floc'h (Corentin), laborer at Quanquisern-en-Lignol.

Sénéchaussée of Lesneven

Le Guen de Kerangal, merchant at Landivisiau.

Prudhomme de Keraugon, commissaire of the Estates of Bretagne.

Sénéchaussée of Morlaix and Lannion

Couppé de Kervennou, Sénéchal of Lannion.

Boudoin de Maisonblanche, avocat at Lannion.

Le Lay de Grantugen, agriculturalist at Plovigneau.

Mazurié de Pennanech, merchant and former mayor of Morlaix.

Sénéchaussées of Nantes and Guérande

Guinebaud de Saint-Mesme, merchant at Nantes.

Giraud-Duplessis, avocat du roi and procureur-syndic of the community of Nantes.

Baco de la Chapelle, procureur du roi at the présidial of Nantes.

Pellerin, avocat at Nantes. (Resigned August, 1790.)

Chaillou, sénéchal of the vicomté of Saint-Nazaire.

Jary, merchant and director of mines at Nort.

Cottin, secrétaire du roi and seigneur de Saffré.

Blin, physician at Nantes.

Sénéchaussée of Ploërmel

Tuault de la Bouvrie, sénéchal of Ploërmel.

Boullé, avocat at Pontivy.

Robin de Morhery, avocat and agriculturalist at Quillio. (Almost at once resigned.)

Perret de Trégadout, former mayor of Ploërmel.

Le Deist de Botidoux, merchant at Uzel. (Replaced Morhéry.)

Sénéchaussées of Quimper and Concarneau

Le Goazre de Kervélégan, sénéchal of the présidial of Quimper.

Le Déan, Ancien subrécargue of the Company of the Indes.

Le Guillou de Kérincuft, avocat, échevin of Quimper.

Tréhot de Clermont, sénéchal of Pont-Croix. (Replaced Kérincuft, resigned in September, 1789.)

Sénéchaussée of Rennes

Glezen, avocat at the Parliament of Rennes.

Lanjuinais, avocat and professor of law at Rennes.

Huard, avocat, armateur at Saint-Malo. (Died in October, 1789, and replaced by Varin de la Brunellière, avocat.)

Hardy de la Largère, mayor of Vitré.

Gérard (Michel), cultivateur, at Tuel-en-Montgermont.

Le Chapelier, avocat at Rennes.

Defermon des Chapelières, procureur of the Parliament at Rennes, commissaire of the Estates of Bretagne.

Sénéchaussées of Saint-Brieuc and Jugon

Palasne de Champeaux, sénéchal of Saint-Brieuc.

De Neuville, sénéchal of Jugon.

Poulain de Corbión, mayor of Saint-Brieuc.

Sénéchaussées of Vannes, Auray, and Rys

Lucas de Bourgerel, avocat at Vannes.

Dusers, counselor at the présidial at Vannes.

II.—*The Mercantile Conditions of the Crisis of 1893*[1]

By FRANK S. PHILBRICK

As the crisis moved along, there was a vast increase in business failures each month. The table in the appendix,[2] shows that, so far as numbers go, the unhealthy symptoms began to be apparent by their constancy in May, and that in June the number rose to an alarming height. The worst week of all (July 14–21) showed 527 failures against 179 in the same week of the preceding year. At the end of the year the total number of failures showed a rise of 51.5 per cent over the preceding year, whereas in 1883 the rise had been only 34 per cent. The total increase in the years 1893–95 was 35.4 per cent, and in the years 1893–96 51.5 per cent;[3] but the three years, 1883–85 showed 75 per cent, and the four years 1883–86 70.6 per cent. Thus the crisis year of 1893, although unparalleled in the number of its failures, showed a far less persistence of the fatal condition, and the business world showed far more elasticity under the stress.

Not only was there a tremendous increase in the number of failing business houses, but quite naturally there was a corresponding change in the commercial death rate, which rose just 50 per cent over the preceding; in 1883 the rise was only 33 per cent. The four years 1893–96 show 5.34 as the sums of their commercial death rates against

[1] This is the fourth section of a paper on the crisis of 1893.

[2] See Appendix II.

[3] That is, 1894 fell 183, and 1895–96 rose 18.3.

4.92 per cent for the years 1883–86. 1896 was almost as bad as 1893.[1]

So much for the number; let us now analyze the character of the failures. There will be found in the appendix a table showing the ratings of failed firms from 1887–97 according to credits, capital, and liabilities.[2] The total number of failures in the six years preceding 1893 averaged 12,533, but leaped in the crisis year to 17,286; fell in the two following years to between 14,000 and 15,000, and rose again in 1896 to 17,298. Taking six years before the crisis the average percentage of more than 75,000 failed firms that fell in the three credit ratings of 'very moderate or none,' 'good,' and 'very good' or higher stood 91.8, 6.7, and 1.5, respectively; but in 1893 the same ratings stood 69.7, 27.1, 3.2—thus showing a tremendous loss of businesses whose ratings in the business world were good or even of the highest character. These same conditions continued practically the same through 1897, showing the continuance of an immense drain and abnormal conditions. As it would be tedious to give the corresponding figures for capital and liability ratings, suffice it to say that there is in general the same testimony of the going under of large business interests—the years 1893 and 1896 being especially marked.

The next thing is to classify the crisis failures by causes. Looking at the classifications[3] we see that the hopeful symptoms of "unwise credit" in 1892 were not belied; the liabilities in failures due to this cause fell in 1893 and were below the normal long-time level, and the number of failures was not above the normal per cent. The same is true of the symptoms or tendencies of "lack of capital"

[1] Appendix I.

[2] See Appendix III.

[3] Bradstreet's January 23, 1892; January 25, 1896; January 23, 1897; January 22, 1898. Also Appendices V and VI.

which was in liabilities lower than before or since and in numbers not unusual, showing that necessity, if not inclination, forced conservatism. "Extravagance" represented normal liabilities, and in numbers caused fewer failures than in the year before and has since continued to improve; 1892 was a bad year and restriction was necessary. "Neglect" showed falling liabilities and normal numbers. "Competition" showed about average liabilities and a very much smaller number of failures—representing only 1.2 per cent of all failures—while in other years from 1890–97 the per cent ranges from 1.6 to 5.2. All these conditions harmonize and are in perfect line with the tendencies noticeable in the years before the crisis. Here again is suggested the presence of crisis conditions and forces before the period of the acute panic that introduced what is the crisis proper of 1893. Quite naturally "speculation" fell in 1893, as it had fallen before, and has fallen since. Unless the beginnings of the crisis are pushed back, here is an instance, in addition to that of the gradual liquidation and fall of prices of previous years, where Juglar's test of a crisis fails.[1] I believe the correct solution is to push the date back, not in order to save the theory, but because it seems to give us the truth. Speculation and crisis are antipodes; they are conterminous, but they do not overlap; one creates the other, which then destroys its creator. The element of "fraud" gives a somewhat similar though less extreme testimony.

Taking up the remaining causes, "incompetency," a disquieting element in 1892, represented a very low percent-

[1] Juglar's symptoms of an approaching crisis are: Wonderful prosperity marked by numerous new enterprises and schemes; rising prices of land, houses, and commodities; full employment; low interest rates; speculative efforts to grow rich at once, and "a very large amount of discounts and loans and bank notes, and very small reserve in specie and legal tender notes, and poor and decreasing deposits."

age of liabilities in 1893, and the number of failures caused by it, though high, has risen since then. The bad showings of "inexperience" also were hardly borne out, for the number continued to fall and the liabilities were unusually low. Of course, failures "due to others" rose, and also those due to "disaster."

On the whole, the country showed that unwise credits had been restricted; that those trying to do a business too broad for their capital had narrowed their dealings; that the factors of extravagance and neglect of business were lower; that crisis conditions had throttled speculation and competition, and, of course, had increased failure due to other failures. In short, the facts exhibit a perfect realization of theory. Crisis and the effects of crisis follow the lines that the common sense of pure theory lays down, and men act under the strain in a way that would justify and delight the most extreme determinist.

Summing up total liabilities and assets for all causes we obtain some interesting totals.[1] Since 1881 the heaviest year in assets had been 1884, with 134.6 millions of dollars; as second, 1891, with 102.8 millions; but in 1893 and in 1896 assets were 262.4 and 148.2 millions respectively. So also as regards liabilities, 248.7 in 1884 and 193.1 in 1891 stand against 402.4 in 1893 and 247.0 in 1896. On adding the liabilities of the years 1883–86 and 1893–96 we have 657.3 as compared with 957.7 million dollars.[2] Such figures convey more plainly than any words the tremendous meaning of the crisis.

I have already pointed out the peculiarly high credit ratings of failed institutions during the crisis. This can be given a more tangible and valuable form by taking the ratio of total assets to total liabilities of all failures in

[1] See Appendices V and VI.

[2] Appendix IV.

different years. The average of this ratio for twelve years preceding 1893 was 50.6. The ratio in the crisis year of 1884 was, however, 54, which was the highest in the twelve years. The average for 1883–86 was 50.2. In 1893 it leaped to 65.0, and for the four years 1893–96 averaged 58.3. The effect of a crisis in dragging down, because of the interconnections of our intricate industrial system, firms of high assets and the best of credit is thus graphically shown; and no less the peculiar prominence of this element in the late crisis. Of course the merging of all failures, good and bad together, masks this feature from direct observation, yet its presence is apparent. It was one of the phenomenal characteristics of the crisis of 1893. During the nine months from January to September, 1893, the ratio stood 70, thus showing still higher before the aftermath of failures was added; the corresponding ratio in the years 1890–92 averaged just 50.

If we take this ratio of assets to liabilities for the failures due to each cause,[1] we find that in 1893 it was 67.1 per cent for "disasters," 64.4 for "unwise credits," 62.0 for "extravagance," 59.2 for "speculation," 58.8 for failures "due to the failure of others," 58.0 per cent for "competition," 53.8 for "inexperience," 51.5 for "incompetence," 49.7 for "lack of capital," 40.7 for "neglect," and 40.1 for "fraud." Thus again, pure commercial "disasters" show the highest ratio; with "unwise credits"—unwise because men do not adapt themselves to the new environment of crisis conditions—naturally next; and "extravagance" (under crisis conditions again) third. Perfectly natural, too, is it that "fraud" and "neglect" stand last, and that "lack of capital" should follow. So, too, it is clear that purely "speculative" failures, i. e., failures due to speculation in normal years could not show such a high ratio. And so on.

[1] Appendix VI.

Finally we may look at one failure table from the point of view of class, and see what were the businesses that suffered most heavily. The eight leading businesses in which failures occurred in 1890 represented a total of 15.2 millions of dollars liabilities. In 1891 the total was 31.23 millions, and the liabilities of banks and bankers and other "financial" businesses (excluding brokers) alone amounted to 16.47 millions. In 1892 these two items were only 12.07 and 4 millions respectively. In 1893 they ran thus: banks and bankers, 36.21 millions; iron and steel, 11.66 millions; coal, 5.41; financial, 4.58; furniture, 3.28; provisions, 3.08; machinery, 2.86; leather, 2.47. The total is 69.55 millions, and the financial factor is 40.79—almost 50 per cent of the total. Again, if we take the failures from 1890–93 we find that the leading businesses run as follows, with the millions of dollars liabilities involved:

Banks and bankers	56.19	Lumber	7.41
Iron and steel	15.10	Textiles	6.84
Financial	12.22	Clothing	6.73
Leather	7.83	Coal	6.34
Dry goods	7.78	Machinery	5.46

The total is 132 millions, and banks and bankers represent 42.5 per cent. This shows what indications there were that banks and bankers were to suffer most in the crisis. It would be beyond the scope of this paper to show in detail the facts concerning the condition of the banks during the crisis, as this topic falls within the strictly financial field. But in connection with the sectional study of failures, I shall bring out a few points useful as indices of the business tone of different parts of the country. The total number of national, state, savings, and private banks and loan and trust companies failing in 1893 was 598, while in the three following years the number was 421, and the estimated liabilities in 1893 were $170,295,000 as against

$9,341,200 in the three years succeeding. The terrible sufferings of banks were probably due largely to the revolution the banking business has undergone in the last score or two of years: instead of banking, as once, upon their capital, banks have more and more operated on deposits, whereby has been brought about a vast extension of the purely credit element in banking, radical "financiering," and a great rise in business risks. On the other hand the bankers' credit obligations, unlike those in other businesses, are always on demand; yet at the close of 1892 the loans of national banks that were placed on demand amounted to only 18 per cent, and those secured by collateral were only 12.5 per cent. Of the last class 65 per cent were loans in New York city. It is quite evident, therefore, how nugatory are reserve requirements. Add to these facts the truths as to the carrying by city banks of the one-half legal reserves of interior banks and the holding as deposits of three-fifths of the 15 per cent cash reserve of country banks and one is ready to believe that a crisis could do almost anything with our national bank system. There certainly seems full accounting for what happened in 1893.

It will be noticed from the table of bank failures[1] that the ratio of assets to liabilities of all failed banking institutions was in 1893 equal to 1.08, and for the three years, 1894–96, 0.83. Here again, exactly as in the case of mercantile failures, we see this peculiar characteristic, the sharpness of which reflects the acuteness of the crisis producing it. Of course, the more special explanation is that, owing to the fact that the city banks carry the legal reserves of the interior banks and the cash reserves of country banks, a great many institutions of the latter classes "failed" that were upon their books still solvent.

[1] Appendices VII and VIII.

When the money arrived they opened again. Thus of 158 national bank failures with a capital stock of $30,350,000, no less than 86, having a stock of $18,205,000, shortly resumed. And this was of course most marked in the West. The interior towns east showed little prominence in this respect, not only because short distances enabled them to obtain their reserves, but because the financial trouble in the East from 1890 to 1892 had already weeded out the market. Thus of five such banks suspending in the New England and Middle States, none resumed; of 6 in Iowa, 5 resumed; 14 out of 16 in Colorado; 4 out of 6 in California; and the same in Oregon.

Returning to the table above referred to, it would be evidently interesting and important, were space available, to determine what sections of the country were specially involved in the failures, since this would add one more test of the business conditions and tendencies of each section in the years preceding the crisis.

It is necessary, however, in order to complete the division of the study, that what has just been done for the whole country be done for the different sections; that is, it is necessary to connect the actual facts as to the special features of the crisis in each section with results independently arrived at by the writer for the years preceding the crisis, in order that apparent tendencies may be compared with actual verities. If we take a table giving the actual liabilities in each section yearly, and take the ratio of liabilities in 1893 to those in 1892, we shall get an accurate measure of the force of the crisis in each section, and we can compare the results with the tendencies in 1891–92. Now, although we can not compare the absolute number of failures or the absolute total of liabilities for different sections, because the greatly different sizes of the sections, and the varying "business density" vitiate

such comparisons, we can quite permissibly and accurately compare these ratios.

Let us place in tabular form under each cause of failure the order of the sections and the ratios of the liabilities of failure therein in 1893 to the same in 1892. Then we have the following:

Incompetence,	M 3, E 2, W 2, N 2½, S 2½, P 1
Inexperience,	S 2, W 2, E 1½, N 1½, P 1½, M 1
Lack of capital,	N 6, M 3, S 2, W 2, P 1, E 1
Unwise credits,	N 10, W 4, P 4, M 3, E 2, S ½ (since '93 W higher)
Failure of others	E 6, P 6, M 4, S 3½, N 2½, W 2½
Competition,	S 5, W 5, P 4, M 1, N 1, E ½ (in '94 E extraordinarily)
Disasters,	N 11, W 9, M 8, E 6, S 2, P 2
Extravagance,	W 10, N 3, E 1, S 1, M ¼, P 1/5
Fraud,	M 5½, N 2½, E 2, P 2, W 1½, S 1 (From 1893-95 S and W are high)
Neglect,	P 10, N 2, M 2, W 1½, E 1, S 1
Speculation,	P 20, S 5, M 4, E 1½, N 1½, W ¾

If mere change in number of failures be considered, the result is in some cases similar to the above, but in only very few. The figures can not be extensively discussed here, since such discussion would take too much space and time; but every line of the table is full of intensely interesting material.

Perhaps it is best to notice, however, that in failures "due to the failure of others" the East ranks first in 1893, i. e., the crisis struck it higher than the other sections in this respect; this is what we would expect, perhaps, and must be placed as a corollary to the fact established elsewhere, that in 1892 the East showed an increase of "neglect," but shrinking "speculation," and that failures due to "disaster" and to "failure of others" were rising.

If we take all causes combined the ratio of liabilities in 1893 to those in 1892 stands:

N 6, W 4, E 2½, P 2½, S 2.

And if we add all the ratios in the above table for each section we obtain:

P 52, N 43, W 40, M 35, S 25, E 25.

This latter really tells the true story of the conduct of each section, since it weighs in a way the other does not the particular factors of improvidence, misfortune, or dishonesty. If we take the liabilities for 1893–95, the Northwest also makes a particularly bad showing, just as in 1893, in failures due to "disasters," "lack of capital," "unwise credits," and a far worse showing than in 1893 in "inexperience" and failures "due to the failure of others." The Pacific continued its bad showing in "speculation"; the South increased "fraud," and diminished "extravagance." The West also increased "fraud" and its high liabilities under "disaster" continued. The Middle greatly decreased the element of "fraud," and other sections and causes showed no very particular feature.

On the whole the South makes a suspiciously shady showing, which can only be accounted for by health or weakness continued from an early crisis date. The good showing of the East shows not only weakness ("failure of others"), but strength ("disaster" cause above) in the business system, and the qualities of business men also show fairly conservative—certainly not more than that. The other features are not especially surprising save the enormous "speculation" and "neglect of business" in the Pacific section.

If we look at the total number of failures in each section by all causes we get the measure in number of the failures of the severity of the crisis absolutely, whereas the above figures showed the severity for each section in 1893 compared with 1892, and for different sections in 1893 compared with one another. Instead of retaining large numbers I have taken the actual number of failures in the East for 1892 as 100 (although the actual number was 1,659) and reduced all figures to this basis. Then we get the following figures:

Number, 1892: E 100, M 151.5, S 115.4, W 122.6, N 59.2, P 53.7
Number, 1893: E 128.9, M 205.7, S 145.8, W 263.4, N 98.1, P 72.4
Increase, E 28.9, M 54.2, S 30.4, W 140.8, N 38.9, P 18.7

Doing the same for liabilities and adding another factor or so we have:

Amount, 1892: E 100, M 183.3, S 111.6, W 160.0, N 61.5, P 40.6
Amount, 1893: E 279.3, M 764.3, S 236.4, W 672.8, N 383.3, P 112 2
Increase, E 179.3, M 581.0, S 124.8, W 512.8, N 321.8, P 71.6

These figures, especially those for liabilities, show plainer than anything I have found the terrible meaning of the crisis. The two sets of figures at once correct and explain each other. Their showing for the different sections is too plain to call for comment. Again, if we take the total number of failures for 1892, and call it 100, then in 1893 the number was 151.5 (and in 1896 147.1), and similarly for liabilities, taking 1892 as 100, 1893 was 370.6.

One other point needs to be added, in order that the analysis be completed. This is a comparison of commercial death rates, which in 1892 and 1893 ran thus:

1892: E .8, M 1.6. S 1.1, W .6, N .8, P 2
1893: E 1.2, M 2.0, S 1.4, W 1.3, N 1.4, P 2.2
Increase: E .4, M .4, S .3, W .7, N .6, P .2

These figures are a part of the "number" table, without which these latter are useless. Unquestionably three, the West, the Middle, and the Northwest, suffered most severely—far the most severely. Of course that means also most severe as compared with financial and industrial "bottom"—the wealth and strength to stand the drain.

And if this were true of mercantile interests, not less was it of the banks. Not only were all the banks low in demand notes and especially those secured by collateral, as we have already seen, but especially in the West were "quick assets" low. Of 360 national and state bank failures in 1893 having liabilities of $109,547,556, no less than 343, with $96,409,483 liabilities, were west and south of Pennsylvania; and it was about the same with private and

savings banks. Although the land booms of the West had collapsed in 1889–90, the immense grain crops of 1891–92 had a bad effect, and so the wholesome check to speculation and bad loans that had started was not of very great value when the collapse came in 1893. In the East it was different; for inasmuch as foreign capital was concentrated there, as domestic also, the eastern financiers profited by the lesson of 1890; they were drained of gold; and "it was on the eastern stock exchange that foreign investors poured for two years continuously their holdings of American securities."[1] The result was that poor banks were weeded out, and that when the crisis came the New York bankers were free from "industrials," comparatively sound and conservative.

Now let us look at the bank failures in 1893.[2] There were in all 585 failures of all kinds of banking institutions with liabilities of 169 millions of dollars; 414 of these, with liabilities of 115.3 millions, did not resume, but 171, with liabilities of 80.8 millions, did. For the banks resuming we find that the ratio of assets to liabilities was highest in the Northwest, and that in all the other regions it was about the same. Thus 3 banks in the Middle section had a ratio of 1.43, and represented liabilities of about 1.93 millions; 66 in the West with liabilities of 20.99 millions had a ratio of 1.45; 46 in the Northwest with liabilities of 9.81 millions, stood 1.85; 22 southern institutions with 9.09 millions liabilities stood 1.46; and 29 banks in Pacific States held 11.52 millions debts and showed a ratio of 1.31 only.

The ratio of assets to liabilities for the 585 failed banks was as \$23/\$21 or 1.08; for the 414 that remained closed it was as \$17/\$19, or 0.89; and for the 171 that resumed it

[1] A. D. Noyes. "The Banks and the Crisis of 1893." *Pol. Sci. Quar.*, Mar., 1894.

[2] Cf. Appendices VII and IX.

stood as \$69/\$66, or 1.05. That the great destruction of banks was due to bad banking laws more than anything else seems countenanced, to say the least, by these figures.

Now we may take each kind of banking institution and trace the facts that are most interesting in connection with it. The national banks that failed were 154, or, including two from South Dakota, 156; of these just half (78) resumed. The liabilities of the 78 resuming were 53 per cent of the total for the class. The ratios of assets to liabilities for all national banks was as \$7/\$5.65 or 1.23, while for the banks that did not resume it was 0.88. It would be tedious to give in detail the figures showing the distribution of failed institutions and of their liabilities by sections. In general, however, almost 77 per cent of the number and more than 77 per cent of the debts were east of the Rockies (excluding Oklahoma, Indian Territory, and New Mexico). In state banks the per cent is nearer 80, and other classes show in general a similar condition. It would be needless, since the table shows it more clearly than any save an extended discussion could show it, to bring out the special features of the bank failures of each section. The West and Northwest show a condition which may profitably be compared with the showing in mercantile failures already brought out.

A few facts regarding the whole country may perhaps be but indicated here. It will be seen that the national banks failing held 40 per cent of all debts, state banks 22 per cent, private banks 13 per cent, savings banks 10 per cent. The number of state banks was 17 per cent greater than the national, but their debts were about 45 per cent less, and so for the others. So also the ratio of assets to liabilities of all failures, whether resuming later or not, was 1.23 for the national banks, 1.06 for private, 1.12 for state banks, and only 0.64 for loan and saving institutions.

Taking finally the grand totals of failures for all classes we find that the 215 failures in the West plus the 147 failures in the Northwest contributed about 61 per cent in number, and about 59 per cent of liabilities of all failures. The South held 13 per cent and the Pacific States 15 per cent of the liabilities, leaving only 11 per cent for the East and Middle.

APPENDIX I

COMMERCIAL DEATH RATES—THE PER CENT OF THE TOTAL NUMBER OF INDIVIDUALS, FIRMS, AND CORPORATIONS IN BUSINESS THAT FAILED.—BRADSTREET'S JANUARY 2, 1897, P. 2 (*) AND JANUARY 22, 1897, P. 51

YEAR	SECTION OF THE U. S.							TOTAL
	Middle	East	South	West	North-west	Pacific	Territories	
1879–1896*	.....	.....	.....	.....	.....	.....	.....	.94, .60, .76, .93, 1.20, 1.32, 1.25, 1.15, 1.04, 1.10, 1.20, 1.07, 1.22, 1.00, 1.50, 1.21, 1.23, 1.40
1891	1.00	1.07	1.50	.80	1.10	2.40	1.70	1.20
1892	.80	1.60	1.10	.60	.80	2.00	1.90	.90
1893	1.20	2.00	1.40	1.30	1.40	2.20	3.50	1.40
1894	1.10	1.60	1.00	.80	1.00	2.30	3.60	1.20
1895	1.10	1.60	1.30	.90	1.00	2.40	2.80	1.20
1896	1.30	1.70	1.50	1.10	1.10	2.50	2.20	1.40

APPENDIX II

BUSINESS FAILURES BY WEEKS

(*Quarterly Journal of Economics*, viii, 254)

WEEK ENDING		1892	1893	WEEK ENDING		1892	1893
January	6	339	313	June	2	163	214
	13	379	301		9	163	299
	20	405	300		16	161	303
	27	249	302		23	159	360
February	3	279	271		30	170	...
	10	214	223	July	7	152	319
	17	260	205		14	166	398
	24	227	202		21	179	527
March	3	247	217		28	163	489
	10	251	184	August	4	155	459
	17	219	228		11	138	474
	24	191	202		18	187	409
	31	164	170		25	169	456
April	7	165	186	September	1	138	369
	14	185	196		8	146	379
	21	206	217		15	143	300
	28	147	206		22	174	346
May	5	166	248		29	143	232
	12	184	219	October	6	198	365
	19	156	255		13	191	406
	26	177	247		20	216	340
					27	220	229

APPENDIX III

BUSINESS FAILURES IN UNITED STATES AND CANADA ACCORDING TO CREDIT RATING, LIABILITIES, AND CAPITAL

CATEGORIES	PER CENT OF FAILURES BY YEARS AND CATEGORIES									
	1887		1888		1889		1890		1891	
	No.	Pr. ct.	No.	Pr. ct.	No.	Pr. ct.	No.	Pr. ct.	No.	Pr. ct.
I. Credit rating of those failing:										
Total failures in U. S. and Canada	11055	100.0	12317	100.0	12229	100.0	13335	100.0	14240	100.0
With very moderate or no credit	10150	91.8	11229	91.0	11311	91.9	12276	92.0	12986	91.2
With good credit	750	6.7	947	7.6	786	6.3	890	6.6	1014	7.1
With very good or better credit	155	1.4	141	1.15	202	1.6	169	1.2	240	1.7
II. Liabilities:										
With liabilities < $5000	7085	63.8	7855	63.7	7632	62.0	8834	66.2	8861	62.2
With liabilities > $5000	3970	36.2	4462	36.3	4667	37.9	4501	33.8	5379	37.8
With liabilities of $5–20000	2919	26.0	3287	26.0	3409	29.3	3405	25	3877	27.3
With liabilities of $20–50000	613	5.5	711	5.7	754	6.1	653	4.9	927	6.5
With liabilities of $50–100000	225	2.0	285	2.3	265	2.1	262	1.9	291	2.0
With liabilities of $100–500000	186	1.7	161	1.3	190	1.5	150	1.1	236	1.6
With liabilities of $500000 and over	27	.2	18	.1	49	.39	31	1.2	48	.33
With liabilities of $1000000 and over	9	.08	8	.06	18	.15	12	.09	14	.09
III. Capital:										
With $5000 or less	9666	87.4	10761	87.4	11035	89.7	11988	90.0	12769	89.6
With $5–20000	959	8.6	1145	9.3	866	7	960	7.2	962	6.7
With $20–50000	259	2.3	251	2.0	218	1.7	237	1.7	289	2.0
With $50–100000	95	.8	95	.7	104	.8	86	.6	104	.7
With $100–500000	65	.5	58	.4	68	.5	51	.4	98	.6
With $500000 or over	7	.06	4	.03	8	.06	9	.06	18	.1
With $1000000 or over	4	.03	3	.02	5	.04	4	.03	3	.02

"Bradstreet's," January 23, 1892, pp. 50–51; January 25, 1896, p. 51; January 22, 1898, p. 51.

APPENDIX III—*Continued*

BUSINESS FAILURES IN UNITED STATES AND CANADA ACCORDING TO CREDIT RATING, LIABILITIES, AND CAPITAL

CATEGORIES	PER CENT OF FAILURES BY YEARS AND CATEGORIES											
	1892		1893		1894		1895		1896		1897	
	No.	Pr. ct.	No.	Pr. ct.	No.	Pr. ct.	No.	Pr. ct.	No.	Pr. ct.	No.	Pr. ct.
I. Credit rating of those failing:												
Total fail. in U. S. and Canada	11952	100.0	17286	100.0	14588	100.0	14874	100.0	17298	100.0	15008	100.0
With very moder. or no credit	11117	93.0	12034	69.7	10358	71	10762	72.3	12415	71.7	11820	78.8
With good credit	704	5.0	4687	27.1	4005	27.4	3391	26.2	4414	25.5	3004	20.0
With very good or better credit	131	1.09	565	3.2	225	1.6	225	1.5	469	2.8	184	1.2
II. Liabilities:												
With liabilities < $5000	7738	64.7	10174	58.9	9189	62.9	9580	64.4	11071	64.0	10737	71.5
With liabilities > $5000	4214	35.3	7112	41.1	5399	39.1	5294	35.6	6227	36.0	4271	28.5
With liabilities of $5–20000	3155	26.4	4872	28.2	4011	27.5	3876	26.1	4271	24.7	3688	24.6
With liabilities of $20–50000	677	5.7	1185	6.8	886	6.1	913	6.1	1169	6.7	398	2.6
With liabilities of $50–100000	244	2.0	504	2.9	270	1.9	265	1.8	430	2.5	106	.7
With liabilities of $100–500000	130	1.1	468	2.7	209	1.4	218	1.4	311	1.8	68	.5
With liab. of $500000 and over	8	.07	83	.5	23	.2	22	.2	46	.2	11	.07
With liab. of $1000000 and over	.....	.....	46	.3	9	.06	6	.04	15	.09	5	.....
III. Capital:												
With $5000 or less	10816	90.5	14740	85.3	12936	88.7	12986	87.3	13810	80.0	13351	88.9
With $5–20000	777	6.5	1463	8.5	1103	7.6	1270	8.6	2384	13.7	1134	7.6
With $20–50000	222	1.9	512	3.0	370	2.5	387	2.6	546	3.2	326	2.2
With $50–100000	95	.8	269	1.5	111	.8	124	.8	273	1.5	100	.6
With $100–500000	41	.3	266	1.5	60	.4	105	.7	268	1.5	93	.6
With $500000 or over	1	.01	36	.2	8	.05	6	.04	15	.08	4	.03
With $1000000 or over	.....	.....	14	.08	.....	.....	.....	.....	2	.....	2	.....

APPENDIX IV

OF FAILURES IN U. S., ASSETS AND LIABILITIES, 1881–96

YEAR	PER CENT	00000 OMITTED		PER CENT ASSETS
		Assets	Liabilities	LIABILITIES
1896	+16.1	148.2	247.0	59.9
5	+ 2.2	88.1	158.8	55.4
4	—18.3	79.7	149.5	53.0
3	+51.5	262.4	402.4	65.0
2	—17.1	54.7	108.5	50.0
1	+16.2	102.8	193.1	53.0
0	— 9	92.7	175.0	53.0
1889	+10.7	70.5	140.7	50.0
8	+ 9.7	61:9	120.2	52.0
7	— 7.8	64.6	130.6	50.0
6	— 4.9	55.8	113.6	49.0
5	— 4.33	55.2	119.1	46.0
4	+13.0	134.6	248.7	54.0
3	+34.0	90.8	175.9	52.0
2	+28.0	47.4	93.2	51.0
1	.....	35.9	76.0	47.0

Bradstreet's, January 2, 1897, p. 2. But Mr. A. C. Stevens (its editor), in 8 *Q. J. Ec.*, p. —, quotes his review as giving for the last column: 1893, 61.0; 1892, 51.0; 1891, 53.0; 1890, 48.0. From January–September in 1893-2-1-0 the Nos. ran 70, 51, 51, 48.

APPENDIX V

PER CENT OF LIABILITIES IN BUSINESS FAILURES IN U. S. BY CAUSES

CAUSE	1890	1891	1892	1883	1894	1895	1896	1897
Incompetence.....	12.3	8.4	12.3	7.4	10.4	9.8	13.6	10.3
Inexperience.....	2.1	3.1	3.0	1.2	2.1	1.7	1.6	1.7
Lack of capital	26.1	32.0	27.0	19.8	25.8	26.1	20.7	23.6
Unwise credits.....	4.2	4.7	4.3	3.4	3.5	5.1	3.5	5.3
Speculation	11.2	12.1	7.0	5.6	3.0	3.7	4.3	5.1
Extravagance	1.4	1.0	1.5	1.0	1.0	1.6	0.9	1.1
Neglect.....	1.5	1.3	1.6	1.0	1.3	1.3	1.1	.7
Fraud	3.9	6.8	9.3	4.2	6.4	6.9	5.7	11.6
Disaster	24.3	21.1	25.8	45.2	39.0	33.6	37.4	31.6
Failure of others...	11.9	8.3	6.6	10.0	6.2	8.1	9.2	6.1
Competition.....	1.2	0.9	1.2	1.0	1.3	2.0	2.0	2.8

Bradstreet's, January 23, 1892, p. 51; January 25, 1896, 52; January 22, 1898, 52.

APPENDIX VI

ASSETS AND LIABILITIES IN U. S. BY CAUSES

CAUSES	ASSETS—000 OMITTED							
	1890	1891	1892	1893	1894	1895	1896	1897
Incompetence	$10656	$ 8563	$ 6599	$14637	$ 7242	$ 8109	$23212	$ 7905
Inexperience	1951	4077	1436	2521	2397	1550	2152	1286
Lack of capital	23571	34572	15209	41924	21490	23566	27762	19821
Unwise credits	3965	5399	2639	8469	2977	5173	5734	4876
Speculation	8917	12108	4132	12590	1932	3245	5533	3398
Neglect	1223	1049	812	1596	958	979	1047	689
Extravagance	1265	1399	819	2328	937	967	1462	508
Fraud	1604	4121	3547	6541	3555	3933	5415	8385
Disaster	28637	21959	15425	116517	36135	32054	59561	32184
Failure of others	9745	8723	3532	22412	4596	6532	13911	5413
Competition	1235	929	617	1947	991	1504	2002	2087

APPENDIX VI—*Continued*

ASSETS AND LIABILITIES IN U. S. BY CAUSES

CAUSES	LIABILITIES—000 OMITTED							
	1890	1891	1892	1893	1894	1895	1896	1897
Incompetence	$21545	$16268	$13445	$ 28408	$15272	$15521	$34335	$16305
Inexperience	3562	6021	3320	4681	4275	2781	3839	2325
Lack of capital	4508	61716	29376	75698	39166	42123	50972	37447
Unwise credits	7204	9223	4672	13150	5302	8187	9527	8421
Speculation	19616	23356	7613	21263	4420	6015	10592	8072
Neglect	2411	2079	1750	3921	1946	2152	2176	1603
Extravagance	6612	13139	10194	16298	9737	10529	13845	18624
Fraud	42650	40736	28031	173542	58474	53385	92223	50360
Disaster	20790	16195	7199	38081	9382	12847	22497	9812
Failure of others	2194	1856	1283	3356	2024	3057	4211	4592
Competition	2626	2584	1707	3750	1545	2125	2698	1132

Bradstreet's January 23, 1892, pp. 50–51; January 25, 1896, p. 52; January 22, 1898, p. 52.

APPENDIX VII

BANK FAILURES JANUARY–OCTOBER INCLUSIVE, 1893

SECTIONS	TOTAL FAILURES (000 OMITTED)			BANKS RESUMING (000 OMITTED)			NOT RESUMING (000 OMITTED)			CHARACTER OF INSTITUTIONS				
	Number	ESTIMATED Assets	ESTIMATED Liabilities	Number	ESTIMATED Assets	ESTIMATED Liabilities	Number	ESTIMATED Assets	ESTIMATED Liabilities	National	State	Savings	Private	Loan and Trust
New Eng..	14	$ 9652	$11656	1	$ 142	.....	13	$ 9510	$11656	2	1	5	3	3
										..	..	..	1	..
Middle....	29	10061	10963	3	2772	$ 1932	26	7288	9031	3	10	1	15	..
										..	2	1	..	..
Western..	215	55932	47827	66	30624	20995	148	25831	26831	46	65	18	85	2
										31	14	7	14	..
Northwest	147	50118	49474	46	18163	9817	101	31954	39656	38	47	10	47	5
										16	15	3	10	2
Southern.	96	24876	22630	22	13359	9098	74	11517	13532	35	26	7	26	2
										13	4	..	5	..
Pacific....	74	30997	25311	29	15153	11528	45	15843	13783	25	30	7	11	1
										14	12	2	1	..
Territories	10	1547	1179	4	629	353	6	918	826	6	2	1	1	..
										4	..	..	..	..

Bradstreet's, November 18, 1893, p. 727. In the columns showing the character of institutions the upper row for each section shows the distribution of the total number failing; the lower, the distribution of those that resumed.

APPENDIX VIII

BANK FAILURES JANUARY–OCTOBER (INCLUSIVE) 1893

CATEGORY CHARACTER OF BANK	Tot. failg.	DISTRIB. OF NO. BY SECTIONS OF COUNTRY						No. resum.	DISTRIB. OF RESUMING BANKS BY SECTIONS						ASSETS / LIAB. FOR ALL	A./L. FOR BANKS RESUMING	A./L. FOR BANKS NOT RESUMING
		E.	M.	S.	Pc.	Nw.	W.		E.	M.	S.	Pc.	Nw.	W.			
National	154	2	3	35	25	38	45	98=50 per ct.	0	0	13	14	16	31	$ 7/5.65 =1.23	.....	$2.35/2.65 =0.88
State	181	1	10	26	30	47	65	47=26 per ct.	0	1	4	12	15	14	3.50/3.10 =1.12	.....	2.65/2.50 =1.06
Private	188	3	15	26	11	47	85	31=15 per ct.	0	0	5	1	10	14	1.90/1.65 =1.15	.....	1.50/1.60 =0.93
Savings	49	5	1	7	7	10	18	13=26 per ct.	1	1	0	2	3	7	.....	.....	.....
Loan and trust	13	3	0	2	1	5	2	.....	0	0	0	0	2	0	.....	.....	.....
All	...	...	...	...	...	...	...	.....	...	...	...	...	...	...	23/21=1.09	9/6=1.50	17/19=0.89

APPENDIX IX

SUSPENSIONS AND FAILURES OF BANKS, BANKERS, AND TRUST COMPANIES, 1893–96

CHARACTER OF BANKS	NO. SUSPENDING				TOTAL ASSETS INDICATED, 000 OMITTED				ESTIMATED LIABILITIES, 000 OMITTED			
	1896	1895	1894	1893	1896	1895	1894	1893	1896	1895	1894	1893
National Bank.....	42	21	24	154	$22951	$ 3172	$ 3485	$ 84493	$ 27544	$ 3971	$ 4315	$ 68687
State	65	57	36	184	7521	3891	2793	43168	9933	7922	3484	38138
Savings.....	20	18	8	50	8119	10161	3029	18763	8457	11167	3445	18152
Private	62	37	18	196	5024	1510	1186	23497	6854	2537	1712	22029
Loan and trust.....	8	2	3	14	3892	155	510	14357	4089	165	1012	22388
Totals	197	135	89	598	$47528	$18891	$ 10985	$184281	$ 56679	$ 22764	$ 13969	$ 170295
	421				77404				93412			

184281/170295=1.081 and 77404/93412=.828.
Bradstreet's, February 20, 1897, p. 114.

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